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Address

THE SUNSHINE AND SHADOW IN MEDICAL ENDEAVOR.*

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Justice to myself, and a proper consideration for those whose faith or curiosity has prompted them to be present on this occasion, impels me to say at the outset, that I have been not a little troubled to select a topic that might suitably meet expectations and at the same time afford an excuse for my presence. I might, perhaps, with a faint trace of propriety, lighten each of these contingencies with the guileless claim that neither you nor I can be regarded entirely responsible for a crisis which has been fostered for a considerable time, and is now launched by those who are charged with the success of the occasion. However this may be, a reasonable fidelity to those who have so implicitly trusted us, should beget praiseworthy patience in you, and a degree of commendable brevity in me that befits your present comfort and the character of the topic under consideration.

The theme of the evening as already announced is somewhat euphonious, but quite suited, as it seemed to me, for an occasion of this kind; one healthful in all respects, dignified by character and learning, and adorned by beauty and grace.

In order that there may be no suspicion in the minds of any, that the topic of our choice is intentionally clothed in a garb of mysticism, I hasten at once to say that the expression, "The Sunshine and Shadow" has no hidden meaning, but is chiefly employed on this occasion to express in a metaphoric and more agreeable, but in no less emphatic way, the well recognized results of our profession, in the long struggle for the relief of human affliction. The glorious sunshine of medical achievements is reflected in the happy faces and glad manners of the patients and their friends, also in the gratified expression of the otherwise imperturbable demeanor of the experienced medical attendants.

Bereft, indeed, of healthy human sentiment are those whose hearts are not gladdened by the melodious expression, "the patient is better," "is out of danger," "is well again," thus indicating to all concerned that Nature's forces, aided by those of genuine medical endeavor, have rescued yet another sufferer, thereby restoring happiness and help to loved and needy ones.

To those who think of others than their friends, and sympathize with them in their distress and forebodings, those who have in their bosoms thoughts of the welfare of mankind, the sunshine in medical endeavor is seen in the results of the efforts of rescue of all men, of all climes, from physical distress, thus adding correspondingly to the comfort and prosperity of the whole people. No financier notes with greater care the fluctuations in monetary affairs, nor accounts for the variations more astutely, nor appreciates more keenly the import of the changes, than does the true physician note and estimate the varying results of genuine medical endeavor, in the different medical centers, and in the medical clearing houses of the civilized world. The features of the former brighten with the gratifying sensation of the knowledge that he is the possessor of greater wealth, and let us hope of greater determination to aid the unfortunate and to add to the world's enhancement. The features of the latter are brightened by the sunshine of the facts, that the beneficent endeavors of his profession have robbed pain of its terrors by means of the strengthening slumber of anesthesia; have stripped infection of its dread by the power of sanitation and asepsis, and have disarmed fatal contagion and distressing disfigurement by means of simple vaccination.

These achievements alone have added more lives and treasure and comfort to the world than all its conquests have destroyed since their time; they have added more to a nation's financial and human assets, than have all of its victories. The bounteous achievements of the physician are attained in comparative silence, and with unobtrusive effort as becomes his calling, and are therefore much less manifest and understood by the people than are the achievements of statesmen and warriors, whose general aims and activities are only rarely out of sight and hearing, and whose final rewards emphasize in no uncertain manner the confidence and appreciation of the people. The sunshine of successful effort and of appreciative response gladdens the heart of the true physician no less than it does the heart of one who achieves beneficent triumphs in other fields of action.

Those who guard the security of individual existence in the cool moments of every day life exhibit quite as great and often greater steadfast bravery than do those whose fortitude is strengthened and whose efforts are stimulated by the fascinating din and intoxicating allurements of battle. But enough of this feature of the matter has been said, for were I to continue longer in this manner of expression you might be led to believe that I am partial in my views and utterances regarding the achievements and the burdens of those of my own profession.

As you will no doubt recall, my theme provides for shadows as well as sunshine in medical endeavor. The shadows in medical endeavor, like other shadows, bespeak the absence of enlivening sunshine, and suggest

* A popular address delivered at the meeting of the Indiana State Medical Society, 1905.

the want of the good cheer that accompanies the need of its presence, more especially in the counterfeit form of endeavor. Sunshine and shadow have antithetic attributes and attend on each other with a degree of fidelity that puts to shame the fealty of human co-operative action in tangible matters. Sentimental writers have noted this fact and utilized it in a delicious manner, as did Bovee when he sang, "False friends are like shadows, keeping close to us while we walk in the sunshine, but leaving us the instant we cross into the shade." Physicians have ample chance to mark the change from sunshine to shadow as modified by the acts and sayings of those dwarfed by the characteristics of complacency or envy. The gratifying sunshine of a conscientious physician's success is too often darkened by the distressing shadow of envy of those who find it easier to gaze into the large than into the small end of the glasses, and quite as natural, and then contend that small things and those beyond their conception or reach are too unimportant for serious thought, instead of keeping step with the comprehensive endeavor that leads the way in meritorious advance. Such persons as these clog the channels of success and are as brigands in the paths of enlightenment.

The sunshine and shadow in medical endeavor! Again the topic is repeated, so that we may better emphasize the fact that the endeavor which we are considering is no less surgical than medical. Medical endeavor includes that of surgical, since the resources of the latter are as much remedial measures of cure as are other means of relief. The proper practice of surgery is based on experience and knowledge and on hard knocks, no less than is the practice of medicine.

I wish, with the requisite degree of emphasis for the purpose, to register my unqualified objections and strenuous opposition to the idea, wherever it may be entertained, that the surgeon is the executive agent of the physician unless, unworthily, he himself so chooses to be. That the judgment and services of the surgeon are not necessary until the physician in charge suggests that they be secured, and perhaps because of a threatening complication that requires for its interpretation and remedy surgical experience and surgical therapy, is a folly that is, I am happy to say, rapidly disappearing, not only because of the recognized fatality that too often follows late consultations, but because of the mutual appreciation of the greater services to the patient and to the profession of prompt and early co-operative thought and action. It would be strange, indeed, at this particular time, and would be reasonably dependent on heedless thought or unpardonable vanity on my part, were I not to insist with equal emphasis on the need of co-operative action in surgical instances as well as in medical.

The shadows of popular distrust and disapproval, and those of professional displeasure and censure, sometimes appear so suddenly and become of such magnitude as to smother by their unforgiving and spiteful character all efforts of explanation in instances of fancied or real oversight, referable especially to the treatment of distinguished public personages. So frequent and inconsiderate are those manifestations in such instances that "the head that wears a crown" can not lie more uneasily than that of one of our profession who is charged with the physical welfare of a person of markedly distinguished rank. Especially is this true when, in moments of misguided confidence or of mistaken policy, matters whose importance can only be properly estimated by the family of the patient or by the medical attendants, are given public notice. Aspiring and proud souls whose ambitions prompt them to place their names highest on the rugged face of an unconquered precipice are not more foolhardy in many instances than are those of our profession who affix their names to a public bulletin bearing details that offer the opportunity for invidious chatter of envious and self-constituted critics. The soothsayer who bade Cæsar "Beware the ides of March," were he living to-day, might with equal pretension bid us beware the "ides" and ends of medical bulletins of prolific recital.

Fearing that you may suspect that I, for some reason, yet feel the smart of the public lash, I beg to inform you that I am not "a bruised reed" that has been broken, nor have I been subjected at all to the Shakespearan form of chastisement as verbally dispensed by Cleopatra; therefore no one has said, like her, "Thou shalt be whipped with wire, stew'd in brine, smarting in lingering pickle," but medical friends of mine and of yours have been thus figuratively whipped by the mischievous and overwise utterances of those to whom have been graciously given or wisely denied, facts that can be properly construed by only those at the bedside of the patient.

In a lesser degree than in the preceding examples many of us occasionally receive more than we deserve, because of expressions that thoughtlessly escape us entering at once the public ear, or entering a private ear with public predilections. Let us then cultivate the sunshine of endeavor in these respects with a due consideration for the shadows begotten in our paths by the unwise or thoughtless indulgence of others in matters beyond their willing understanding.

It is the medical endeavor of modern age that has just engrossed our attention, the sunshine and shadow of which in all of their characteristics have been the natural product of the spirit of the times, as, in essential respects, no doubt, have been the sunshine and shadow in the medical endeavor of the early history of the healing art.

The knowledge and ability of healing the afflicted is developed in accordance with the opportunity and desire to cultivate the calling; the opportunity and the desire result from the willingness to seek relief and the degree of the devotion exercised by those who aim to provide it; the willingness to seek relief is prompted by the confidence reposed by the afflicted in those whose capacity for good is measured by the honest outcome of intelligent assiduity, exercised in a proper and adequate field for the purpose.

The laity too frequently clothe those of our calling, more especially the surgeons, with romantic attire, and often seem more impressed with the agents of our craft and by our utterances than by our material presence. They watch for something startling and even measure our importance by the magnitude of the exhibit; and not all of us, I am disposed to remark, make perilous efforts to dispel the illusion. I now recall a physician whose appearance and manner were, to my then youthful and unsophisticated mind, the personification of Ajax defying the lightning. One day in the presence of many by-standers, this physician was asked by a patient: "How much shall I pay you for your advice, doctor?" The pseudo-Ajax, rising to the occasion and to his full height at the same time, in a loud, convincing tone replied: "An ordinary doctor would charge you two dollars. I am an extraordinary doctor

and I won't charge you but two." The interest of the onlookers seemed to me to increase a hundred fold at once, and so far as I am concerned, I am not quite willing to deny that a microbe of some form of ambition did not infect me at that time. Certainly every one present on that occasion seemed to be delighted to have been a factor in so startling an announcement, and the poor patient himself parted with his hard earned money, emitting a radiant expression of wonder and satisfaction that seemed to say, "By Jupiter, an angel, or if not, an earthly paragon," and at the same time unconsciously illustrating by his appearance the sentiment of Emerson, uttered perhaps twenty-five years before: "There is a remedy for every wrong and a satisfaction for every soul!" In this instance, however, the charge made was twice the sum usually asked at that time and place for the services rendered, and which on this occasion were for the relief of an illusionary complaint. It has been many years since this incident happened but not so many since similar ones have occurred. The circumstance then illustrated and still illustrates the subtle and controlling influence exercised on the minds of those with imaginative ills, annoying to themselves and friends and perplexing to the medical attendant, of the assertive declarations made by noisy and irresponsible persons.

Patients in despair because of these afflictions, encouraged by their friends and sometimes offended by the apathy or well meant sarcasm of the medical attendant, often reluctantly seek the relief offered by exploited means of cure. Sad it is that in these cases the medical attendant too frequently expresses his satisfaction for having thus escaped the irrational besetments of the victims of imaginary disorders. Such patients as these deserve abundant sympathy and are difficult to convince against their morbid inclinations and are cured only with great effort by ordinary officinal methods. On this unfortunate class of people the human buzzards prey with persistent eagerness and gratified glee, aided by the alluring statements and false beacons hoisted into view by selfish agents for the purpose of securing the gross gains of the soulless thrift encouraged by this form of business enterprise.

In secular, sectarian and medical publications are found too frequently alluring announcements of remedial promise, and the recital of cures that can have no foundation in real fact and which, it seems to us, should be well known to those intelligent persons who assume to educate us in all things relating to the flesh and to the spirit. If these misleading statements and their deplorable outcome be not comprehended by so distinguished and earnest public servants as are these same agents of enlightenment, whose efforts in the search of knowledge and truth in the affairs of men and nations, lead them to overcome all obstacles opposing the purpose, then indeed should the duties of the editor on "serious things" be so increased as to include an essay on the fact that "nothing is more terrible than active ignorance." I beg to suggest, as an earnest of this graphic utterance of Goethe, that the essay be illuminated with the shadows of the unfortunate, and the results of misguided hope as pictured by the emaciated forms and mental wrecks strewn along the pathway of delusive medication. If there be any of these who are not ignorant of the disaster which their business instincts invite, to them the least I will say is: Dismiss your family physician at once and administer to your children and take yourselves the curative agents you exploit, and in accordance with the directions on the package.

The worst that might be said to this class of persons is not fitted for utterance at this time and place, and in this presence.

I will, in this connection, give an illustration of the sentiment "Where more is meant than meets the ear." Perhaps, however, it is better to say, than meets the eye—as might have been said had the expression been written near to this period of frenzied enterprise.

Not very long ago a loyal friend of mine whose loyalty to me could only be measured by her loyalty to a certain sectarian journal from which she had gained in spiritual consolation and comfort for many years, chanced to call my attention to the "high character," as she expressed it, of the abundantly illustrated "business columns." I naturally wishing to take note of so important a fact, at once scanned the announcements relating to its business purposes and to other undertakings. It required no special scrutiny to determine the presence of several exploitations of things that fasten the attention of those of inquiring minds and confiding natures; those who, while waiting for something to turn up of substantial character, invest their unbounded faith and limpid assets in problematical ventures; those whose failing health from incurable or imaginary afflictions have often experienced "the sickening pangs of hope deferred," and ventured their all, with no other gain than this. However, I will mention only one, "A Cure for Consumption," at so much "per" bottle. I inquired of my friend why it is that in a publication of this character, devoted to spiritual matters and bearing a title that means Christian effort and Christian outcome that such an announcement as this appears on its pages. She frankly replied, "Because I assume that their presence here inspires greater confidence and is followed by larger returns than when announced by the secular press." I earnestly inquired, "Do you believe consumption can be cured by medicine alone, and do you not believe that such medication as is here announced is quite likely to be delusive and even destructive because of its artful composition and misleading effect?" She, being the wife of a physician, and therefore more interested and better informed in such matters than many others, promptly replied, "Yes, I do, and I will call on the editor and see about it, for surely he either believes the statement to be true, or is not aware of its presence in the publication." Later I saw the lady again and inquired if she had seen the editor and what he had said. "Yes," she replied, "I saw him and he said: 'I am not responsible for the advertisements, as the business affairs of the paper are no part of my duty.'" "Well," I inquired, with a somewhat confidential, continuously curved interrogative inflection, "what are you going to do now?" "I have written him already," she replied, "that unless that deceptive consumption cure is expunged, I will stop my subscription for the paper." I wish to say, in justice to the management of the publication, that after a little time the objectionable announcement ceased to appear, but for what reason I never knew.

While writing these lines it occurred to me to examine the pages of a number of sectarian publications periodically devoted to the enlightenment and the spiritual guidance of the people. Twelve different examples were selected without reference to any consideration other

than the main object in view—the ascertaining of the presence or absence in the paper of the alluring recitals to the unfortunate afflicted already mentioned. The pages of the great majority of these publications were above reproach. The pages of a small minority of them were a sad commentary on sincere religious pretension and honest business enterprise. On a page of one appeared a sensible article illustrative of the fact that "Where there is prayer there is peace." On another page of the same publication was conspicuously announced, "The curing of cancer without the use of the knife," followed by "If you are seeking a cure come here and you will get it." In another instance was noted a three-quarter page announcement in which a list of not less than forty diseased conditions appeared, along with the assurance that in any stage of any of those diseases "The results are so certain" that gladly an absolute guarantee will be sent to any inquiring patient. The exact meaning of this phraseology is somwhat dim and is open to diverse conjecture; but that the intent is obvious and the outcome is remunerative is told by the liberal area of the space devoted to the purposes of the announcement. Among the diseases in the list were croup and Bright's disease, piles and cancer, constipation and tuberculosis, dandruff and women's diseases, along with the alluring bait, "A fifty-cent bottle free."

We all are more or less familiar with, and gladly welcome the happy inspiration that conceived the idea of tasteless, of agreeable, and of sugar-coated medication, but are we familiar with and do we approve of medication that has for its vital inspiration the misguided faith begotten by sanctimonious business enterprise?

One other instance of this nature and I am through with examples of these special shadows. In a local paper of a town and not in the list of the regular advertisements, but in a conspicuous place in the reading matter and therefore of a conspicuous price, is announced "A new cure for cancer," fortified with a certificate from a far distant state of a man who had a cancer of the lip that "seemed incurable," and "is now perfectly well." This medical agent is also guaranteed to cure cuts and burns—price twenty-five cents. I do not contend that this compound if applied to cancer will cause local harm, but surely it will not effect a cure and probably as surely will contribute to final disaster by delay of proper means of treatment, and possibly will rob the patient of established methods of benefit while chasing the delusive phantoms of hope, incited by the agents of thoughtless or of mercenary gain. The columns of many of the lay journals of the country are disgustingly disfigured with a humiliating class of notices, notices that filch from the helpless and unsophisticated their hard earned and much needed money, giving in return but renewed disappointment and often final disaster.

This form of filching is supplemented, in some instances, by one of far lower degree, whose slimy bids for trade exact a tax on the most unfortunate of the unfortunate class that abides with us. Neither the sunshine of medical endeavor nor even that of Christian endeavor has as yet uprooted, nor more than lessened the presence in conspicuous places of the beguiling hand-bills of these audacious vipers. Surely the failure of the efforts in accomplishing so righteous a purpose casts a fixed and almost impenetrable shadow, demonstrative of the frailty of beneficent human endeavor in the correction of such insatiable evils. The remedy for these conditions lies in the development of such a degree of moral determination on the part of all as will secure the enactment of corrective legislation and the development of an abiding courage sufficient to cause enforcement of the legal commands. I am disposed to believe that the wise and emphatic utterances of President Cleveland regarding such matters on the occasion of the semi-centennial celebration of the New York Academy of Medicine in January, 1897, can well be quoted at this time as an earnest of the opinions of all thoughtful, considerate and patriotic citizens. He said:

> You have established a code of ethics which condemns charlatanism in all of its forms, and yet ignorant pretenders roam over the land offering to perform miracles, or are located in our towns and cities preying on the weakness of the sick and afflicted, while men and women are allowed to die without medical attendance, deluded with the hope that faith will save them in their last extremity. Within the limits of your professional power and influence you seek to restrain any approach to criminal malpractice, yet newspapers disgustingly, though covertly, advertise the way to such crimes and startle their readers with sensational tales of death and misery to which they are directly accessory. I need not suggest that such evils are allowed to exist by reason of the insufficiency of our laws or the laxity in their execution. I have intimated that for this condition you are not responsible in a professional sense; but are you sure that as citizens you are doing all in your power to remedy the situation?

The potency of these remarks is the product of the careful thought and acute observation of a distinguished citizen whose fearless loyalty to the public interests has frequently been demonstrated in no uncertain manner.

I am fittingly reminded at this time by the sacred lessons of the greatest of all teachers, that "He that is without sin let him first cast a stone." Also, "And why beholdest thou the mote that is in thy brother's eye, but perceivest not the beam that is in thine own eye? How canst thou say to thy brother, Brother, let me pull out the mote that is in thine eye, when thou thyself beholdest not the beam that is in thine own eye?" No one is more aware than am I of the number and the magnitude of the motes and the beams in the eyes of those who profit by the unethical policy of medical journalism. No one is more aware than am I that until quite recently, the casting of a stone in any direction of the compass exposed to justifiable hazard the metaphoric eye of an offending medical journal, and possibly of a noted practitioner. The failure to recognize the essential differences between thrifty commercialism and ethical proprieties has been a blighting reproach on the ethical pretensions of our profession, subjecting us to biting jests and humiliating scorn painful to bear and difficult to gainsay. But I am gratified to be able to announce that an apparent era of consistency in this respect is at hand, and is rapidly increasing in all directions, embracing alike the personnel and the press of our profession. Let us, therefore, congratulate ourselves for ourselves because the rising sunshine of professional consistency is now dispelling the gloomy shadows of professional inconsistency that have too long darkened the path of consistent medical thought and action.

The construction of even a very brief retrospective review of the birth and past attainments of our profession requires abundant leisure, infinite patience and unrestricted access to almost numberless records rep-

resentative of all nations, and of all ages, in order correctly to understand the earliest periods of medicine and surgery and the sequence of their logical development. We can do no more on this occasion than to touch lightly here and there at long distances apart along the pathway of advance, thereby fitting us the better to appreciate the full significance of modern medical triumphs as demonstrated through the effulgent sunshine in medical endeavor. The beginning of medical thought and action is so obscure and so intimately associated with the strange conceits and fantastic beliefs of early recorded time as to make impossible the fixing of a period of commencement in established medical endeavor. Medical thought and action at that time were a part of the imaginative features of early human existence, when superstition and false philosophy dominated the actions and beliefs of men. In ancient times, the physician of a locality was its magician and conversely, as sometimes happens now in pagan and aboriginal countries. The art of healing was then regarded as most mysterious and its agents were believed to be in communion with spirits. Amulets were worn to chase away the ague, extracts from the Iliad to lessen the suffering of gout, and a verse from Lamentations for cure of rheumatism.

But do not, my friends, pity too soon these ignorant people, nor indicate by signs a doubt regarding their mental equilibrium, for neither you nor I know how many here this evening pin their faiths of cure or prevention of rheumatism to a well-worn horse chestnut deposited in the left-hand trousers pocket; nor how many experience relief from insoles made of mullen leaves; nor how many are benefited by brass rings worn on a special finger or toe, which ring extracts the virus of disease, as is asserted to be proved by the presence on the ring, from time to time, of the products of oxidation, and, pardon me if I suggest, of careless personal sanitation. Lessing truly said, "The superstition in which we were brought up never loses its power over us, even after we understand it."

An ordinary scrutiny of the advertising columns of the secular press to-day will furnish exhibitions of the perverse ingenuity of man, affording him ample subsistence because of the presence now of receptive beliefs like those of the earliest times.

The prescriptions of early times are a caution to modern pharmacy. Galen and Avicenna secured greater professional repute as successful physicians than is possible in our period, and, were their famous prescriptions to be given now, it seems quite certain that more patients would succumb than receive benefit from their use. Yet in their time these prescriptions were employed with seemingly marvelous success. Do these facts suggest an absence of stability of medication, or only the presence of its fallacies?

In the second edition of a small book published in 1692, denominated the "Choice of Remedies," is found this prescription for "Convulsive Fits" and "Hysterical Vapors:" "Take the liver of a hare (if it have been hunted it may be better) and hang it up in a dry place till it is somewhat friable, having a care that it is not putrific; of this reduced to powder let the patient take two or three scruples at a time, in any convenient vehicle." Also we find another for cure for cancer of the breast: "Take the warts that grow on the hinder legs of a horse, dry them gently till you can reduce them to powder, of which you may give half a dram for a dose in any convenient vehicle." This latter agent had the merit of doing no local harm, even though it could be of no special good.

In this connection, I am reminded of the fact that in my early youth a fond and solicitous domestic gave me freely of grated dried pumpkin stem and molasses for the cure of colic. Whether or not the sweetened sunshine of the molasses or the insipid shadow of the pumpkin stem or the implicit faith entertained in the curative virtue of the remedy or, perhaps, only old-fashioned homely coincidence afforded the relief in this instance of medical endeavor, I am not prepared to say.

On closer examination of this little book on "Choice of Remedies," one is forced to the conviction that, indeed, much sunshine should have followed medical endeavor when attended by the dark shadows of such sickening therapy, the proper vehicle for which I am disposed to say should be the ash cart of a modern city. It should not be overlooked, however, that they did then, as we do now, the very best they knew.

The recorded growth of surgery began 3,000 years ago, and the tangible evidences of surgical endeavor antedate this period an unknown length of time. Fossil examples of prehistoric trephining done some time during the polished stone age may be cited as examples of this fact. About 1,550 years before the birth of Christ was made the following record regarding a tumor: "If this tumor goes and comes under your finger, trembling even when your hand is still, say it is a fatty tumor and treat it with the knife, after which treat it as an open wound. A work on anatomy (a true foundation of safe surgical endeavor) was in existence about 5,240 years before the birth of Christ. The Old Testament contains expressions relating to medicine and surgery. And we find, at that time, an expression that has come down to us with a pungent flavor not greatly attenuated, though highly seasoned with the smart sarcasm of the day. King Asa, "In his disease sought not to the Lord, but to the physicians." And, "Asa slept with his Fathers!" In Exodus is found this statement: "And if men strive together and one smite another with a stone, . . . then shall he that smote him . . . pay for the loss of his time and shall cause him to be thoroughly healed," or, when practically rendered, shall pay the surgeon his fees.

About 1,000 years before Christ, Homer in his songs described the wounds of the conflicts of that period and the method of their treatment, which in some respects may be regarded as rational for the present time. In the fifth and sixth centuries before Christ, numerous temples erected to Æsculapius, the father of medicine, were extant, to which the afflicted resorted for relief, suggestive of the dispensaries of to-day. At these places, certain medical families, having presumptively special medical endowments, dwelt and treated the complaints of the callers, not in accordance with any established dogmas, but in accordance with their own individual conceptions of the means best suited for medical and surgical relief. It is likely that each individual family had its own records of remedies, of methods and of results, which were transmitted from father to son, just as one now finds in a good old-fashioned family "grandmother's recipe for cake" or for colic. And, also, perhaps, not unlike the self-constituted doctor of our day, who prescribed corn beef and cabbage for a blacksmith suffering with cramps, with instant relief, and so recorded the fact. Later, however, a minister thus afflicted called him in and was given the same treatment, but promptly died. Whereof this unprejudiced recorder

of facts made the following entry in his record of endeavors: "Corn beef and cabbage is good for a blacksmith with cramps, but ain't worth a d—n for cramps in a minister."

Hippocrates, the father of medicine, born 460 years before Christ, was the offspring of a direct family of medical practitioners. Prior to his time medicine and surgery were but little advanced, and a distinct line of demarcation had not been drawn between them. Dr. Hippocrates, like some doctors of divinity, had great faith in the efficiency of fire as a remedy. The maxim of Hippocrates that "the diseases which are not cured by medicine are cured by iron; those not cured by iron are cured by fire, and those not cured by fire are incurable," was the cause of great suffering and of bad surgery—and theology—up to nearly the present century. Hippocrates and his students were prolific writers on surgical topics. They wrote on injuries of the head, on fractures and dislocations and sympathetic fevers, and many of their statements are to-day a part of the structure of modern established surgery. Thus it appears that the wise men of that period were able to establish enduring truths in medicine and surgery of significant modern importance, and, too, without the aid of the special means of analysis that characterize the bountiful period in which we live.

It may not be amiss to observe in this connection that the powers of human reasoning in diagnostic attainments are developed in direct proportion to the paucity of other means than this of reaching final conclusions in the field of differential endeavor. Conversely, inductive diagnostic attainment, if not carefully fostered, will be disabled by the vigorous assaults made on reasoning effort by use of the novel expedients employed in diagnostic aims; not necessarily because of the abundance of expedients, nor of their presence, but because it is human to accomplish a perplexing desire with as little effort as possible. The scant danger that now attends "explorative incision" is apt to encourage a degree of mental contentment, inhibiting the reasoning powers, so as to be followed, after brief and unconvincing effort, by the expression, "Oh! well, an explorative incision will settle it."

Let us now turn to a more pleasing picture, illustrative of the sunshine and shadow in medical endeavor as demonstrated by the direct results of professional effort in the alleviation and cure of preventable human affliction, during many years of toil of those of our calling. It is well to be reminded here that of one million human beings born a hundred years ago only about three hundred are now living, and they are living but feebly, cheered by the recollections of the past.

In this connection, you should be told that, during the last hundred years, the expectation of life has been remarkably advanced. The ubiquitous "King of Shadows" has been moved many more paces to the rear of the "shining marks" that he so much loves to demolish. The expectation of life in New York City in 1886, says Dr. Biggs, was only a little more than twenty-five years, while in 1903 (17 years after) for the same period the expectancy had nearly doubled, equaling quite forty-one years, and constituting an equivalent in the saving of life in that city of 28,000 lives annually. In the seventeenth and eighteenth centuries, according to Dr. Biggs, the average death rate of the civilized world was about 50 per 1,000. In London, from 1628 to 1635 (in the absence of pestilence), the average death rate was 50 per 1,000, and the absolute mortality there for twenty-four years (1620-1643) was over 70 per 1,000.

So much for shadow in medical endeavor. Now mark the sunshine. In London, in 1902, the death rate was but a fraction over 17 per 1,000. In London, from 1771 to 1780, 5 per 1,000 died of smallpox; in 1880, 2 in 1,000; in 1837, 1 in 12,500; in recent years the death rate per 1,000 from smallpox in London is expressed by an insignificant decimal.

In 1888, in the Department of Health of New York City, the initiative in the present war against tuberculosis in this country was begun. Then and for some time following, the idea was regarded by distinguished members of the medical profession of the city as being meddlesome, puerile and demoralizing and doomed to prompt and inglorious defeat. At that time the medical commissioner of the Department of Health of that city addressed to each of twenty-five of the leading physicians of the city a letter inquiring if, in their opinion, the time had not come when tuberculosis should be regarded as a communicable disease and measures be taken to combat it, based on the reporting to the Department of Health by the medical profession of the cases of this disease coming under their care. From the great majority of the twenty-five thus addressed no reply whatever has yet been received. From the small minority halting replies of the "Yes, I guess not" type came to hand and to ear. But two only of the twenty-five responded promptly and in the affirmative. Physicians of lesser rank than those already mentioned amused themselves and others of high attainment and doubting method by means of cheap writings and sayings that prompted mirthful comments on the part of those with no faith and little desire to aid in the undertaking. Since that time (1888), however, the cause has made rapid progress, and physicians who then deprecated the attempt are now convinced of its wisdom and are using the weight of their eloquence and standing to secure sufficient monetary support from the city and from citizens to provide for the care and relief of the minority host of this class of sufferers. The rewards of effort thus far gained can be no better related than by Dr. H. M. Biggs, who has been among the foremost in aggressive action and suggestion of those who have engaged in the conflict against tuberculosis. Says Dr. Biggs:

> The average death rate in the Boroughs of Manhattan and the Bronx from all tuberculous diseases for the five-year period preceding 1888 was 4.35 per 1,000 of the population and for the five-year period preceding Jan. 1, 1905, was 2.83, the decrease exceeding 35 per cent.; or, going a little farther back, in 1881, the rate was 4.92, and twenty years later, in 1902, it was 2.63, or a decrease comprising only these two years of 45 per cent. Translated into lives, the difference in the rates for the five-year periods, computed on the present population of Greater New York, means a decrease in the annual deaths from tuberculous diseases of over 5,500 in the greater city.

Nor is this but a little, my friends, of what has been accomplished in life saving during the average age of those within this inclosure. Surgeons who labored in the hospital wards before the days of antisepsis and asepsis will recall the abundant harvest of lives and limbs gathered in by the almost omnipresent and everstrenuous and unrecognized agents of infection. It requires no effort of mine to recall that, while as interne in Bellevue Hospital, the presence there of pyemia, septicemia, erysipelas and puerperal fever often halted the surgeon's best efforts of relief and forbade him to employ the most approved means of operative cure under the risk of increasing the death rate of the hospital. I

believe that you will indulge me if I cast on this picture of unavoidable woe the resplendent sunshine of a little of the present outcome in preventive medical endeavor.

During the last twenty-five years it has been my honor and duty to be a visiting surgeon at Bellevue Hospital, a hospital devoted to the care of the unfortunate poor of the city, those whose habits and associations, in a large proportion of cases, do not fit them for the endurance incident to disease and injury. Yet, during this time, in Bellevue, plus eighteen additional years in St. Vincent's Hospital, largely devoted to the same class of patients, I have not met with as many cases of infective diseases of preantiseptic type as came under my notice in a month's time as a hospital interne before that period. And in this connection I desire to say that each of these hospitals was as successful in treatment as were any before that dark period, and since that time are unexcelled by none devoted to the same class of cases. I can say, without fear of gainsay, that hopeless cases of injury and disease for which no practical relief could be afforded before antisepsis and asepsis are now, as the result of the practical application of these remarkable agencies, rescued in large percentages (10 to 90) by the means of established operative endeavor—and so it is everywhere. Please remember in this connection, however, that the astonishing differences in these results is the consequence of increased knowledge and not of greater assiduity nor of more thoughtful care.

Enough has been said to emphasize decidedly the glorious results in medical endeavor—of preventive medical endeavor—of the last century and a half. The brilliant sunshine of the outcome in this endeavor mingling with its unshed tears would fashion a resplendent bow of promise gloriously betokening God's choicest gifts to man.

Vaccination, anesthesia, antisepsis and asepsis, antitoxin, the *x*-ray, the discovery of the tubercle bacilli and of the kinship between the mosquito and the yellow fever plague of commerce, and of malarial torments, are among the most potent and far-reaching beams of sunshine in medical endeavor, and which are constantly increasing in their brilliancy and beneficent power, adding comforts and life to the inhabitants of the world, and lessening correspondingly the tears and sorrows of the earth that cast a sunless shadow on all of life's endeavors.

Original Articles

THE CORRECTION OF EXOPHORIA BY DEVELOPMENT OF THE INTERNI.*

W. H. ROBERTS, M.D.,
PASADENA, CAL.

There are sins of omission as well as sins of commission in every profession. Oculists are guilty of the former when they treat asthenopic symptoms as though all were accommodative and none muscular. This paper does not aim at bringing out anything new in the way of diagnosis, or treatment, but simply recommends the necessity of determining the muscle balance in all refraction cases, and emphasizes a known and tried method of relieving the vast majority of cases in which exophoria exists. This subject has been impressed on me by seeing numerous cases that have passed through the hands of competent oculists, wearing glasses practically correct, with asthenopic symptoms unabated because of an unsought for and unrelieved exophoria.

I wish also to sound a note of warning against the indiscriminate performance of the various tenotomies, with or without advancements, wherever imbalance is found. While not opposed to operative measures when indicated, I believe they should only be performed when the lack of balance can not be cured or relieved by other measures, and then only by men who are so situated as to be in constant practice. I firmly believe that more eyes are injured than benefited when the muscles are cut by any but oculists of large experience, living in the larger cities and having sufficient clinical facilities for keeping well up in this class of operative work.

Orthophoria is an ideal condition of perfect balance, or equilibrium, of the external ocular muscles, in which the tendency of the visual axes is toward parallelism.

It is rather infrequent, however, that we find orthophoria, generally a slight esophoria being associated with our hypermetropic patients, and in our myopic, a slight exophoria. Most authorities are agreed that from one to two degrees of esophoria will enable the eyes to be used for near with greater comfort, owing to the slight excess of convergence, than will a condition of orthophoria. Slight degrees of exophoria in strong, robust patients may not produce symptoms of eye strain.

Exophoria, when seen in connection with its concomitant myopia, gives the least symptoms, since fewer demands are made on the adductors in this disease than in hypermetropia.

It is not the intention of this paper to go into the causes of exophoria or to take up the subject of muscle balance in an exhaustive manner, but to recognize the fact that in many of our patients a troublesome exophoria exists, and to report some cases to show that the condition can be entirely overcome, or relieved, by muscle exercise. No originality of method is claimed. We merely desire by showing results to encourage others to adopt this simple method of affording relief to a disturbing symptom.

A routine examination of the muscle balance should be made in every case refracted. It is not absolutely necessary to measure the degree of adduction or abduction, or of supraduction or infraduction. With the Maddox rod and the small point of light at six meters the balance for distance can be quickly determined, with sufficient accuracy for all practical purposes. In those cases where the Maddox rod test shows no exophoria for distance, and the glasses prescribed do not relieve all the asthenopic symptoms, it is well to make use of von Graefe's equilibrium test for the working distance, for frequently deficient convergence for 30 cm. will be found. If no attention is paid to the exophoria, either as regards the strength of the spherical portion of the lens ordered to correct the ametropia, or to the development of the weak interni, we shall fail to give the vast majority of our exophoria patients the relief they should have at our hands.

It is very essential that all refractive errors should be carefully measured, generally under a mydriatic, in patients under 45, for many cases of exophoria are undoubtedly produced, or at any rate, greatly aggravated, by an improper correction. In errors of refraction associated with hypermetropia the amount of the plus sphere must be very considerably reduced, or omitted, when exophoria is present, as such incentive to convergence as slight amounts of uncorrected hyperme-

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

tropia give, are of aid in overcoming the exophoria. If myopia be present in connection with exophoria, a full correction of the myopia should be prescribed.

The general health should be considered and brought as near to normal as possible. The use of the eyes for close work should be restricted and out-of-door exercise advised. Dr. de Schweinitz recommends increasing doses of nux vomica, beginning with fifteen drops three times daily and running up to as high a dose as the patient will stand.

The method I use for developing the adductors consists of exercises at home, reinforced by regular visits to the office for supervision and additional exercise.

EXERCISES AT THE OFFICE.

Generally the proper ametropic correction is placed before the patient's eyes in a carefully centered trial frame and the attention directed to the point of light (or candle) six meters distant. Weak prisms, bases out, are put in the trial frame and the strength rapidly increased until the patient has difficulty in keeping the point of light (or candle) single. He is then told to close his eyes, slightly stronger prisms are inserted and on opening the eyes he looks at an ivory ruler held twelve to fourteen inches from his eyes, my body shutting off the point of light which is across the room. Telling him to look intently at the ruler I slowly back off towards the light and when I reach it I step aside and his gaze is quickly transferred to the point of light which is now usually single. If it is double I use weaker prisms until he can readily fuse the image and then gradually increase the strength. When the light is single after transferring his gaze from the ruler, I have the patient look steadfastly at it for a few seconds, then close his eyes for two or three seconds and if on opening them he can compel the lights to fuse, stronger prisms are placed in the trial frame. The rapidity with which the strength of the prisms can be increased, and the total to be overcome, must be determined for each case. Usually I add one or two degrees each time I walk across the room, until twenty-five or thirty degrees are overcome readily. It is not often necessary to overcome more than thirty or thirty-five degrees, but occasionally I run up to fifty. In all this work it is essential to stop short of actual fatigue of the external muscles, or no true development will occur. After the exercise the patient should sit a few moments with the eyes closed until they have somewhat recovered from the excessive convergence.

EXERCISES AT HOME.

The patient is given a pair of eight or ten degree prisms, mounted bases out, in a properly fitting straight temple spectacle frame, to be worn with or without the distance correction, as may be deemed best in each case. He is then carefully instructed in the use of the prisms as follows: To use the longest room or hall available, six meters or more being desirable. Then with the prisms properly adjusted before the eyes, to keep them closed until a lighted candle is brought in front of the eyes and twelve or fourteen inches distant. If the patient has some one to assist him with the work, the candle is then slowly carried across the room. If alone the patient slowly backs away from it, keeping the eyes and mind strictly on the light. After getting across the room the eyes are closed until the candle is carried back to the starting point, or if exercising alone the prisms are removed and not replaced until ready to start on another pilgrimage. This procedure should be repeated until the light can be at once fused at six meters distance. In the beginning these home exercises should be gone through with morning and evening, the time occupied being about ten minutes. As the muscles strengthen, once daily will suffice. It may be necessary to increase the strength of the home prisms several times, depending on the results obtained. The exercises must be persisted in until the Maddox rod will show from one-half to two degrees of esophoria for distance, and the von Graefe test shows orthophoria for near. It is well to tell the patient at the outset that it will probably be necessary to keep up a moderate degree of exercise for an indefinite period after the methodical exercises are discontinued. If the athlete stops all training after his muscles are thoroughly developed, they will gradually lose their tone. So with the developed adductors; if all prism or converging exercises are stopped, some exophoria may again show itself, therefore it will be well to use the prisms for a minute or two daily, or the thumb exercise will do.

The following cases are reported to show what good results may be obtained by the methods just outlined:

CASE 1.—E. G., male, aged 32, architect. This patient was referred to me through Dr. Geo. M. Gould of Philadelphia, and came under my care Dec. 18, 1903. For two years he had been unable to work at his profession owing to inability to use his eyes for close work. For a while he was a nervous wreck—which condition he ascribes entirely to his eyes—and was under Dr. S. Weir Mitchell's care. Dr. Mitchell sent him to an oculist, who prescribed O. D. + sph. 1.25, O. S. + sph. 1.00, which gave him no relief whatever. For some months he had been living a strictly out-of-door life, sleeping in a tent, hoping that his eyes would tone up and that the insomnia from which he suffered would disappear. He was greatly discouraged, and as he told me afterward, he would have gone back east forthwith had it not been for the fact that he could not look at the time table long enough to see what train he should take. He disliked to ask anyone for fear he should have to explain about his eyes. His examination showed O. D. V. 6/5 ??, O. S. V. 6/5 ??, 3° exophoria at 6 meters, 2° exophoria at 30 c.m.; adduction 10, abduction 9.

After careful mydriatic refraction I ordered, O. D. + sph. 0.50 ⌒ + cyl. 0.37 ax. 45 = 6/4, O. S. + sph. 0.50 ⌒ + cyl. 0.50 ax. 20 = 6/4.

He was given prism exercises at the office, supplemented by work at home with a pair of 8 degree prisms which were later increased to 12 degrees. By February he had ¾ degree exophoria for distance, and orthophoria for near. In March he had a slight esophoria for distance. He returned to active work in his profession in April, keeping up moderate exercise with his prisms. In May he had from 3 to 6 esophoria. When last seen in March of this year he reported his eyes perfectly comfortable. Adduction was 28 and abduction 9.

CASE 2.—R. H., school girl, aged 16, complained of frontal headache, which came on only after use of eyes. O. D. V. 6/6 ??, O. S. V. 6/6 ??, 3° exophoria at 6 meters, 8° exophoria at 30 c.m.

Under a mydriatic no astigmatism could be found, either at trial case or by the retinoscope, only a slight hypermetropia, and this was not prescribed for. She was given the exercises at home, and at the office, and in just one month she had orthophoria. From that time on she was entirely free from headache.

CASE 3.—Mrs. G. B. H. had been repeatedly refracted by one of the best oculists in Los Angeles, without any relief from her asthenopic symptoms. The glasses she was wearing were practically a full correction of her compound hypermetropic astigmatism. She showed 3 degrees of exophoria. I cut down materially the spherical portion of her lens, made a slight change in the cylinders and commenced muscle gymnastics. Her relief was prompt. On her return to her

home in the east, three months after I examined her, her eyes were more comfortable than they had been for years. Until she came to me her muscle balance had never been tested.

CASE 4.—Miss E. F. A., aged 37, passed through the hands of the same oculist as Case 3 and with like results. She was unable to use her eyes with any comfort. Her lenses were practically correct, but she had 4½ degrees of exophoria, which had been entirely overlooked. Rest of her eyes from all close work for a time and moderate gymnastics worked wonders. In a little more than a month all her exophoria disappeared. In a short time more she had a slight esophoria and now she can use her eyes in moderation without any ill effects.

CASE 5.—T. G., school girl, aged 18. Asthenopic symptoms were unrelieved by the lenses she had been wearing for over a year, which were practically her full mydriatic correction. She showed 2 to 3 degrees of exophoria for both distance and near. I reduced the spherical portion of lenses each — 0.50 and prescribed prism exercises, with complete relief.

CASE 6.—Mrs. A. S. L., aged 50, wife of a physician, was wearing from one of the best oculists in the country, for reading, each eye, + sph. 1.50 ⌒ 3° prism base in. Her eyes were such that she could not read at all without diplopia. She showed 8 degrees exophoria for distance and 12 degrees for near. I was very doubtful in my prognosis of this case and rather advised a tenotomy, as her abduction was 12 degrees and adduction almost nothing. I made her rest her eyes, however, and gave here the exercises with astonishing results. She soon had an adduction of 33 degrees. With suitable correction, omitting the prisms, she is now able to use her eyes with comfort.

CASE 7.—Miss J. L., aged 23, came to me March 27, 1905, wearing a pair of 1 degree prisms, bases in, complaining of inability to use her eyes at all. Her vision was normal, adduction 14, abduction 9, 2½ degrees exophoria. I took off her prisms, started her on the exercises, and in two weeks her eyes were feeling much better. I did not see her again till June 27. She then had orthophoria for distance and near, adduction 30, abduction 9. She reported that she could use her eyes, all she wished, without discomfort.

CASE 8.—N. S. M., student, aged 18, consulted Dr. William Campbell Posey, Philadelphia, last fall, for sudden loss of vision in his left eye. Dr. Posey found a large lymph extravasation apparently from the superior temporal vein. Vision 2/60.

The young man had been indulging in sea bathing with great frequency. For some time he had had a thick discharge from his nostrils, evidence of some sinus involvement, and had been in the habit of sniffing the sea water through his nostrils. Dr. Posey made a diagnosis of thrombosis of the temporal vein, following a sphenoiditis, contracted by swimming. Dr. Posey put the young man on large doses of salicylate of soda. Active diaphoresis by hot air baths and pilocarpin was ordered every other day. In two months vision was normal. He then came to California and on May 10 consulted me. He had been studying hard for his Princeton examinations and his eyes felt strained and weak. He was greatly worried for fear he had injured his left eye by overuse. He was wearing weak sphero-cylinders, adduction 14, abduction 6, 1½ degrees exophoria. The ophthalmoscope showed evidences of an old chorioretinitis above the disc and in the foveal region, but not involving the macula. I made slight changes in the axes of his cylinders and ordered prism exercises. Improvement was immediate. After a short rest he was able to resume his studies with a tutor. By the middle of June he took his examinations without any evidences of eye strain. On June 26 he had 1½ degree esophoria, adduction 30, abduction 6.

I could give the histories of many more cases, but I think it unnecessary. The ones reported are fair examples of cases I meet every day. You will notice that of these eight cases two were emmetropic, and three were wearing lenses that practically corrected their refractive error but did not take into account the muscular defect.

I think the results obtained in these cases justify me in my enthusiasm for prism exercises and should reflect great credit on the originators.

DISCUSSION.

DR. G. C. SAVAGE, Nashville, pictured two ciliary muscles on the blackboard, and two internal recti; also two brain centers, one controlling the ciliary muscles and the other the interni (functionally). He said that there are two centers at the base of the brain, each of which is connected with two muscles, the ciliary and the interni. The centers of convergence and accommodation, he said, are so intimately related that one can not act without the other. The center of convergence, he assumed, is the third, and the center of accommodation the tenth, and asked what establishes the intimate relationship between the two. For every nerve impulse sent by the tenth center there is a corresponding nerve impulse sent to the two interni for convergence. Now, if there be orthophoria for distance and the tonicity of the ciliary and interni is normal, there can be no exophoria for near, for every time the ciliary muscle undergoes contraction the interni will also undergo the necessary contraction to converge to the object. Orthophoria for distance and esophoria for near is the normal condition. There is proper relationship as to tonicity between the ciliary muscles and the interni. Nature, he said, has placed in every brain centers for the correction of muscle errors. These centers are not the volitional centers; they are not in the cortex of the brain, but there is an individual center for every muscle connected with every eye for the correction of every condition that would cause diplopia. These centers, he believes, are in the base of the brain. There is the third basal center on one side and the third on the other. Volution has no influence over these basal centers, but influences the cortical centers only. In the proper test for heterophoria the basal centers are thrown off their guard and do nothing. He said that the Maddox rod does not offer a correct test for heterophoria, and said that the remedy is to increase the tonicity of the interni and that no operation is necessary. The muscles are to be exercised. Accommodation is strong, but convergence is weak; therefore, prism exercises are needed. That does not disturb the third center, but excites to activity the basal centers and they throw into a state of contraction the interni, and if such exercise is allowed to alternate with rest the patient will be cured.

DR. F. B. EATON, San Francisco, preferred to look at the subject from a clinical point of view. Eleven years ago, he read before this section a paper on the physiology of the ocular muscles, especially those of convergence, and he said that he has learned something in the eleven years that have followed. While Dr. Savage's demonstration from a theoretical point of view is impressive and experience will bear him out, yet he thinks the great error is not giving attention to the directions given last year by Dr. Ramsay, to build up the vitality of these patients. Dr. Eaton can overcome any amount of prisms and can converge one eye without the other, but he has exophoria for nearly 14 degrees. While this may be due to some disturbance of the vertical ocular muscles, his experience is that as the physician builds the patient up in a common sense way, he cures these muscle conditions. Otherwise it does not make any difference how much exercise is given them. Dr. Eaton thinks the condition is a neurotic one.

DR. DUDLEY S. REYNOLDS, Louisville, stated that he has seen many cases of heterophoria subjected to tenotomies, after Dr. Stevens' suggestion, and to a great variety of exercises with prisms, without satisfactory results. He believes that with a full correction of whatever error of refraction may exist, with systematic feeding and such medication as has been suggested by de Schweinitz, full doses of tincture of nux vomica, and perhaps change of scene, without any reference to the eyes at all, beyond the correction of the refractive error, a complete cure may be attained, and not in any other way.

DR. WILLIAM C. POSEY, Philadelphia, declared that he fully believes that with the proper use of regular rhythmical exercises the condition of exophoria for near may be turned into esophoria for far, but for only so long as the prisms are used. When the use of the prisms is stopped the trouble returns. If the symptoms are to be held in subjection the exercises must be continued. One other point is that when the interni are exercised with prisms bases out, if the exercises be kept up a long time, Dr. Savage's hypothetical third center is also exercised, and it will be necessary to change the spherical lenses as the muscle power is brought up. Dr. Posey believes these are of value in bringing up the adduction. He has not been able to accomplish good results with bases up or down, or with the use of the cylinders, after Dr. Savage.

DR. S. D. RISLEY, Philadelphia, said that he published a paper some years ago on abnormalities of ocular muscle balance, in which he outlined what seemed to him a just classification of these cases. The group of cases which depends on insufficiency of the interni, which does not exist until a number of convex glasses have been placed before the eyes, he denominated as relative insufficiency; that is to say, a patient who all his life has found it necessary to accommodate without converging might in this case converge without accommodating. When convex glasses are placed on a hypermetropic patient the condition which experience has taught him to exercise is disturbed and he is left with a relative insufficiency of the interni. These patients get well under the exercises set forth in Dr. Roberts' paper, but, there is another entirely different group which does not belong to these mentioned by Dr. Roberts nor to those spoken of by Dr. Savage; they are the patients who depend on faulty attachment of the muscles to the ball itself, deformity of the orbit. Given a deformed orbit, with different planes from the normal skull and the points of attachment may be distributed in many ways. The interni may be attached too far back, or the externi too far forward. The physician can exercise those patients until doomsday and while they may be made more comfortable for a time, as soon as the exercise is omitted their discomfort immediately returns. The muscle can never be strengthened. Dr. Risley doubts very much if any amount of exercise ever strengthens the ocular muscles, but it may teach some facility in using them.

DR. JOHN E. WEEKS, New York, agreed with Dr. Roberts in his belief that there is a class of patients who can be benefited by these exercises, but said that there is a class that can never be benefited by prism exercises. It seems to him that there is a simple method of testing muscles to determine whether there is an absence of strength in one or the other, and that is by means of the perimeter, or better still, the tropometer of Stevens'. The power that the muscles have on the eye may be tested and one can judge very accurately whether a given case requires treatment with prisms, or operative interference. Dr. Weeks has not infrequently had patients come to him with a static exophoria of from 2 to 10 degrees and on measuring the muscles by means of the tropometer he found the actual rotation of the globe to be normal in every direction; with a rotation in, say 50 degrees; outward 45, approximately; and these patients have been benefited by treatment. When the rotation inward was perhaps 45 degrees and the rotation outward 50, such patients have not been benefited and operative procedure is necessary in the majority of patients to relieve them. He fully believes that there are anatomic defects in the muscles that require operative procedures for their correction. Each class of cases should receive its particular form of treatment and physicians have at their disposal the means of determining what that treatment shall be.

DR. C. H. WILLIAMS, Boston, said that as the muscle is exercised and gets a little more facility or strength, the physician should keep on decreasing the correcting prism, keeping it always less than the amount of error, so that the muscle is always doing something to try to bring the eye to a proper position. In the use of the Maddox rod he finds that there is always a tendency to bring the line and the light together, a tendency to fuse images. That, however, can be avoided very well by the use of a little apparatus which he showed before the section in St. Paul, consisting of a series of green figures with a red line running through them. Put in front of the eyes a pair of spectacles with one glass red and the other green, so that with one eye the patient sees the line and with the other the figures. With deficiencies in the vertical meridian especially, can a demonstration of a deficiency of one or two degrees be obtained, which could not be obtained with a Maddox rod, and these deficiencies in the vertical meridian he finds give the patients more discomfort than those right and left.

DR. WILLIAM ZENTMAYER, Philadelphia, said that a great many of these patients may be relieved without the use of prisms by putting on a very partial correction which relieves the disturbance created by correction of the hypermetropia. If the astigmatism has been corrected there is often relief of the asthenopic symptoms caused by the exophoria. He believes in prism exercises for exophoria.

DR. LEARTUS CONNOR, Detroit, asked why most of the cases of muscle imbalance exist without producing any trouble and that only exceptionally is there trouble from this cause. That question he has not been able to answer satisfactorily, though the trouble may be called neurasthenic. In a practical way, he has found the use of the galvanic current of value in many instances. Another agent that he has found to be of use is very deep massage as near the medulla as possible, and of the vibratory variety. He does not know of anything that affords so much relief as this shaking up of the base of the brain. The occasional effects of such treatment are marvelous. Each case is a study of itself from the beginning to the end.

DR. J. S. KIRKENDALL, Ithaca, N. Y., said that aside from medication directed to constitutional troubles, there are various reflex causes which should always be looked for. He recalled one patient who had been under the care of several prominent oculists and by the removal of a plug of wax from the ear he was able to relieve the symptoms. Another cause, the relief of which he has seen followed by good results, is an abnormal nasal condition, spurs, etc., in the nose. Many of these patients might be relieved by correcting these various reflex factors.

SUBCONJUNCTIVAL SALT INJECTIONS.*

S. D. RISLEY, M.D.

PHILADELPHIA.

Personal experience with subconjunctival injections of solutions of different crystalloid substances in the treatment of various forms of ocular disease, a study of the literature of the subject, and differing views entertained by some of my colleagues regarding the efficiency of the method, have led me to think that a discussion of the subject by this section would prove interesting and valuable. The literature is too recent and too well known to need extended references; I shall, therefore, confine these remarks to my personal experience regarding the groups of disease in which the method has proved useful, its mode of application and a brief consideration of the theoretical basis for its adoption. In my early experience, injections of solutions of the mercurial salts were first experimented with, but soon abandoned because of the severe pain they occasioned and the more or less violent reaction which was liable to follow their employment. Solutions of chlorid of sodium in varying strength were then substituted and experience soon excluded strong solutions of this salt. For several years, only the so-called physiologic salt solution has been employed at about the temperature of the body. In the cases here reported, this was the solution invariably used and extended experience has shown that it can be injected with practical

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

impunity. In many hundreds of injections, I have not seen an instance of inflammatory reaction, or any thickening of the conjunctiva or subconjunctival tissues, or any adhesion of the tissues to the sclera, even when the injections had been made daily or on alternate days continuously for many consecutive weeks. While the results have often been disappointing, there has been no cause for regret because of harm having been done.

The following reported cases are taken at random to illustrate, not only favorable results, but groups of diseased conditions in which the method has proved a valuable addition to our armamentarium.

ABSCESS OF THE CORNEA.

CASE 1.—G. G., aged 50, an Irish laborer, came to the Wills Eye Hospital with an abscess of the cornea situated near the lower limbus. There was a large hypopion with much infiltration of the cornea and the anterior wall of the abscess was breaking down into an open ulcer.

Treatment.—A Saemisch operation was performed, the man placed in bed and the usual well-known methods of treatment instituted. While they probably prevented the eye from passing rapidly into a state of panophthalmitis hypopion recurred and no progress was made toward recovery. Enucleation seemed inevitable, but before adopting this radical measure he was taken to the operating room, cocain solution instilled and an abundant injection of physiologic salt solution made under the conjunctiva at a point contiguous to the now large, open ulcer. It was immediately followed by a profuse sanguineous discharge from the needle puncture. In an hour the severe pain he had suffered subsided and in twenty-four hours the pus in the anterior chamber had disappeared. The injection was repeated on alternate days until four in all had been given, and hot saline stupes applied continuously.

Result.—The man made a rapid recovery and was discharged from the hospital with a circumscribed leucoma at the site of the original abscess.

INTERSTITIAL KERATITIS.

CASE 2.—A Norwegian housemaid, aged 22, with pale blue irides, nearly white, flaxen hair, thick pendant lips, a flabby indented tongue and opaque, pale, muddy skin, clubbed finger-ends, and a tall, lax, angular frame, came to the Wills Hospital for impaired vision in the right eye.

Examination.—There was some ciliary injection, there was no increase of tension, the iris reacted normally, the corneal reflex was not impaired, but there was a ring of gray opacity, apparently in Bowman's membrane, surrounding the corneal pole inclosing a nearly transparent center about 2 mm. in diameter. She was obviously in ill health, but there were no physical signs of cardiac or pulmonary disease. Menstruation was scanty and irregular. The central incisors were not notched.

Course of the Disease.—She received atropia locally, an improved general regimen was directed, and her service as housemaid was abandoned. Iodid of iron and arsenic were administered internally. The eye grew rapidly worse and photophobia increased, the opacity meanwhile spreading until the entire cornea was gray, rough and vascular, while the vision sunk until she was unable to count fingers. The left eye becoming also involved, she was admitted to the hospital, where, notwithstanding treatment, she was soon unable to go about without aid. The general health improved, but the eyes grew steadily worse, the opacity more dense and the left cornea also became vascular and the ciliary injection more marked.

Treatment and Result.—Daily salt injections were then begun as a last resort and other local measures omitted, except the hot saline stupes for an hour after injection. The improvement was at once manifested by diminishing discomfort and photophobia. In three weeks she could see her way about, and in six weeks she left the hospital, returning as an out-patient for the injection, which, however, were soon abandoned. In three months, the remaining corneal neubulæ could be discovered only on close inspection, and a year later vision was 6/60 in each eye with her correcting glasses.

Remarks.—In this patient all the usual means of treatment having failed, salt injections were followed at once by speedy relief, and ultimate cure of conditions which certainly threatened serious, permanent impairment of vision.

VASCULAR KERATITIS, WITH IRITIS.

CASE 3.—Housemaid, aged 20.

History.—The patient had been under treatment at different clinics by able colleagues for more than two years. She was led to the Wills Hospital service by a friend and was admitted to the house.

Examination.—The palpebral conjunctiva showed no evidence of trachoma. The corneæ were gray and vascular throughout, there was marked pain, photophobia and lachrymation. Examination of e nasal passages and sinuses excluded them as an exciting cause.

Treatment and Result.—The salt injections followed by hot salines stupes were at once begun, and resulted in such rapid improvement that she was soon able to leave the hospital, returning alone as an out-patient on alternate days. The vascularity disappeared, leaving numerous gray spots and dots in the deeper layers of the cornea and a few posterior synechia in each eye. The deep ciliary injection and evident iridochoroidal disease slowly subsided under the iodids, and occasional subconjunctival injections for which she would voluntarily return because of the relief they afforded in the exacerbations of discomfort following exposure or use of the eyes.

CASE 4.—High myopia, atrophic choroiditis, macular hemorrhage, commencing separation of retina.

Patient.—Mr. F., aged 29, traveling salesman, consulted me in February, 1905.

Examination.—He presented the following conditions: Right eye had been blind for several years from extensive detachment of the retina; left wearing — 6.50 D. V. = 6.60; fronto-occipital headaches with undue sensibility to light. The ophthalmometer revealed a considerable degree of uncorrected astigmatism, but no glass other than — 6.50 materially improved his vision. The entire fundus was fluffy, except the area occupied by an atrophic crescent at the temporal margin of the nerve. The vitreous was filled with a freely moving fine granular débris, seen with + 6 D. used as a magnifying glass. There was no impairment of the field of vision other than the narrowing due to the impaired light sense so common in choroido-retinal disease. The serious nature of his condition was explained and he was urgently advised to abandon his work and place himself under treatment.

Subsequent History.—He returned two months later in great alarm over a sudden loss of vision which had come on during sleep, two days before. His vision sunk to 1/60, with eccentric fixation, and the upper nasal field was wanting. The ophthalmoscope showed the vitreous filled with floating webs and shreds, an extensive gray opacity in the lower temporal ophthalmoscopic field, but little raised above the general level of the eye ground, but which extended upward, including the optic disc and macular region. At the macula, there was a horizontal band of hemorrhage, apparently lying between the choroid and the retina. The effusion or infiltration of the tissue was so great that the fundus could be studied without the aid of a concave glass, whereas, before the accident, — 6.50 at least was required at the fovea, and — 10. at the temporal margin of the nerve. His former glass — 6.50 D. did not improve, but rather impaired his vision.

Treatment.—He was placed in bed in a private room at the Polyclinic Hospital, bright light was excluded; blood was taken from the temporal and mastoid region. Iodid and bromid of lithium were administered internally, atropia was instilled and daily sweats secured by a twenty-five candlepower electric lamp hung under a tent formed by the blankets. His diet was regulated to meet the depleting influence of the treatment. His headaches rapidly subsided and the blind area in his field of vision diminished. At the end of two weeks he became hysterical and homesick. He was therefore taken

from the hospital and domiciled at the house of a friend, but little improvement in the ophthalmoscopic appearances having resulted from the treatment, though the vision had risen to 6/60 with — 1 D. He then came to the office on alternate days in a cab, and received a copious physiologic salt injection remaining at the office in a recumbent posture for two hours. He then returned to his room and applied warm salt-water stupes, one hour in three, frequently opening the eyelids to freely bathe the conjunctival surface in the salt solution.

Result.—In a week, V = 6/30, eccentric fixation with — 1.50 D. and the cut in the field had disappeard. This improvement was followed by a partial relapse, but under the continued treatment the field was once more rapidly restored and he was permitted to return to his home on June 26, with V = 6/30 + with — 4 D. The central blind spot persisted, but its area was much diminished.

The gray infiltration of the fundus or subretinal effusion had disappeared, and a number of small atrophies in the region of the fovea were now present at the site of the hemorrhage. It remains to be seen whether, under prolonged rest and care this improvement can be maintained.

CASE 5.—Traumatic abscess of cornea with unguis and hypopion.

Patient.—A machinist, aged 30, came to the clinic of my colleague, Dr. Radcliff, at the Wills Hospital on April 10, three days after the removal, by a fellow-workman, of a chip of steel lodged in the cornea.

History.—I am indebted to his assistant surgeon, Dr. George Robinson, for the following condensed report: There was corneal abscess 2 mm. in diameter in the lower and outer quadrant of the cornea. The cornea was infiltrated with pus gravitating from the abscess quite to its lower limbus and the anterior chamber was occupied by a large hypopion.

Treatment.—Atropia was applied and the abscess was cauterized with carbolic acid. Blood was taken from the temple and continuous ice compresses were applied. The eye grew worse in spite of this treatment until April 14, when he received a normal salt solution injection.

Result.—At his next visit to the hospital, April 17, he was free from pain, the hypopion and unguis had disappeared, the conjunctival injection had diminished and the ulcer was clean and progressed to rapid recovery.

These cases are briefly reported to illustrate different groups of disease in which the injections have been used with rapid and signal benefit. The list could be indefinitely extended by the report of cases in which the course of disease was favorably influenced, but it is not my design to present statistics. Other groups might have been included, e. g., the use of injections in cases of uveitis with transient increase of tension and sand-like infiltration of the vitreous, or cases in which they were administered to hasten the absorption of swollen masses of cortex in the anterior chamber after discission of soft cataract; or cases of mild iritis with capsulitis coming on late in old people after cataract extraction, but to include them would have extended the paper beyond the time limit.

MODE OF OPERATION.

The purely theoretical consideration underlying the injection of solutions of crystalloid substances into a living animal membrane introduces us at once not only to a study of the anatomic relations of the lymph channels and apices of the eyeball, and to the nature of the tissue juices which occupy them under varying conditions of health and disease, but also to a consideration of the laws of osmosis and of dialysis.

The well-known law of osmosis of fluids, viz: that solutions of crystalloid substances of differing density or specific gravity, separated by an animal membrane, tend to diffuse through the membrane until they assume a uniform density, has suggested, for example, that in case of retinal detachment the injection into the contiguous lymph spaces of solutions of some crystalline salt of greater density than the fluid underlying the retina, through the law of osmosis, would tend to withdraw the retinal fluid to itself and so to exhaust the subretinal space. Clinical experiments based on these theoretical considerations, while in some instance of seeming benefit in hastening the disappearance of the subretinal effusion, have not, on the whole, given brilliant results in the treatment of separation of the retina. The suggestion, however, resulted in a series of more or less elaborate, laboratory investigations of the diffusion of fluids of various colloidal and crystalloidal composition until an extensive literature has been created.

From the point of view of the clinician, the results of these laboratory studies has been to offer but little encouragement to the advocates of subconjunctival injections. Indeed, if the clinician placed his trust wholly on the teaching of the laboratory experiments he would be inclined to abandon the method and to conclude that the apparent results which had at first excited his enthusiasm must have rested on faulty observation.

In witnessing the results which certainly followed the injection of solutions of crystalloid substances into or under the conjunctiva, it was natural to conclude that the resulting improvement in pathologic states was due to the injections; and in seeking for an explanation it was equally natural to turn to the well-known laws of osmosis or dialysis, the observer supposing, again quite naturally, that the diffusion of fluids through living animal membranes would be subject to the same laws which control the diffusion through organic membranes after their removal from the body. It was taught, therefore, in the case of chlorid of sodium, for example, that it acted as a lymphagogue; when the mercurial salts were employed that they acted not only as lymphagogues, but, in cases of infectious diseases of the eyeball, as disinfectants.

A careful study of the literature of experimental research, however, seems to show that those hasty conclusions are untenable; that any efficiency these injections may possess is not due to osmosis, or to their dialytic action, either of which would produce an acceleration of movement in the tissue juices and lymph currents; nor now to the antiseptic influence of the injected fluid, but is produced by a change in the composition of the aqueous humor, which, as a consequence of the irritation caused by the injections, becomes richer in albuminoids through the resulting congestion of the blood vessels and the increased transudation of albuminoid substances. The efficiency of these injections, therefore, is said to be due to the well known protective influence of the serum albumin poured out into the aqueous humor. In support of this view, we may recall the well-known fact that the composition of the aqueous humor is changed by paracentesis of the cornea, a procedure which not infrequently changes favorably the course of various pathologic states of the eye, e. g., in uveitis with transient attacks of increased tension of the globe.

When viewed from the standpoint of the clinician, it is difficult to accept the result of these experimental studies as representing the sole action of the subconjunctival injections. While it may be and probably is true that the irritation produced by the injections causes, through congestion, an increased transudation

of albuminoid substances which are one of Nature's bulwarks against infection, it is not probable that these substances penetrate the tissues of the cornea in time to produce the results often speedily manifested after these salt injections. For example, the patient will often voluntarily bear witness to a clearing of the vision within a few moments after the injection, and in these cases I have frequently observed an unmistakable diminution in the corneal haze, so that the iris and pupillary area could be more clearly studied than before the injection had been given; an observation which is to be explained only on the supposition that the lymph channels of the cornea had been partly emptied of their abnormal contents into the lymph spaces surrounding the limbus. The corneal haze or impaired transparency is doubtless frequently due to an accumulation or congestion of migratory leucocytes which the lymph spaces and channels of the cornea, in response to the unusual inflammatory stimulus afforded by the existing pathologic process, and also, to the actual production of new cells from the division of the fixed corneal corpuscles. These products of inflammation clog or overload the exit into the conjunctival and subconjunctival lymph spaces with which they communicate and into which they empty under normal conditions, probably largely also through the perineural sheaths which, according to Piersol, are to be considered as lymph channels.

The fluids occupying the lymph spaces are, in health, probably derived from two sources; from the marginal vascular loops and by diffusion from the anterior chamber; the former being devoted to the nourishment of the anterior epithelium and the superficial layers of the substantia propria, while the latter supply the deeper portions of the cornea; not, however, by diffusion through the endothelial lining, but by a circuitous route through the spaces of Fontana at the angle of the anterior chamber, thence into the lymph channels of the sclera which communicate directly with those of the cornea (Piersol, Stadevini). It would seem, therefore, that while the diffusion of nutritive fluids into the corneal spaces occurs in the manner described, their principal exit is by the lymphatics of the conjunctiva, and in smaller part by the perineural lymph tracts at the corneal limbus. It is obvious that if these principal paths of exit are obstructed, either by pressure due to the surrounding inflammatory exudates, or are clogged by the excessive demand made on them in carrying away the congregated leucocytes and tissue juices invited to the cornea by irritation, that the fluids must accumulate both in the corneal spaces and in the anterior chamber.

Now it is probable that the injection of neutral, saline solutions of low specific gravity, rapidly dilate the channels of exit and, at the same time, dilute their contents, and so by a rapid diffusion of fluids hasten the flow of the diluted lymph and albuminoid substances through their normal channels. It is probable, also, that the emptied spaces are at once refilled by a fresh supply from the original sources which will be richer in albuminoid substances and withal would carry a fresh nutritive supply to the tissues. Some recent observations suggested by a renewed study of the microscopic anatomy of the ocular tissues, seem to show that the same result may be secured by other methods. The prolonged application of saline stupes, or of solutions of crystalloid substances of low specific gravity to the eye at the temperature of the body are useful if permitted to come directly into contact with the conjunctival sac.

For many years, I have treated stubborn cases of uveal disease by soaking the eyeball in an eye cup filled with warm Dobell's solution, made up with a reduced portion of carbolic acid. Until recently, it did not occur to me that its beneficial results were due to the osmotic diffusion securing a dilution of the contents of the lymph channels, but recent experiments with other crystalloid substances in solution of low specific gravity have led me to think that this is at least a plausible explanation. Furthermore, it awakens the inquiry as to whether this is not the *modus operandi* of many of the collyriæ which experience has proved useful in the treatment of ocular affections, e. g., solutions of alum, borax, zinc salts, etc.

DISCUSSION.

DR. WILLIAM ZENTMAYER, Philadelphia, said that while the salt solution may not produce any permanently disastrous results, it does sometimes produce disagreeable results. He saw a case of this kind in a young man who had been under treatment for some months for interstitial keratitis. The subconjunctival injections had been used and produced a marked bulbar conjunctivitis through blocking of the lymphatics. Some time later in a case in which he had been using the injections for detachment, the method had to be given up because of the severe reaction that followed. There was a great deal of congestion and after some weeks there appeared over the cornea of each eye a large crescentic patch of exudate, the surface of which was smooth in most places, but at various points there was ulceration that stained with fluorescin. The condition when he saw it last, was one of subsiding inflammation, but there was still considerable pigmentation of a yellowish color.

DR. L. H. TAYLOR, Wilkesbarre, Pa., said that some time ago he saw Dr. Risley make these injections and went back home and used them on a patient under his care who had been treated for three months for opacities of the cornea. Dr. Taylor used the injections and the patient recovered so well that he was able to go to work and was temporarily lost sight of. He intends to follow up this plan of treatment later.

DR. JOHN E. WEEKS, New York, agreed with Dr. Risley that the beneficial change or effect on the eye which is produced by the subconjunctival injections of solutions of crystalloid substances is not due to osmosis, but to influence on the circulation of the blood and lymph. Osmosis takes place when the difference between the densities of the fluids is relatively great. In edema of the glottis if a gargle of strong salt solution is used every fifteen or twenty minutes the edema is reduced in a short time. In all probability that is an example of osmosis, but such strong solutions can not be used subconjunctivally without doing damage to the tissues. The clearing up of the cornea is in all probability due to the change in the flow of fluid through the lymph spaces. The haziness is not always due to the presence of leucocytes and the clearing could hardly be attributed to the escape of leucocytes within the short interval mentioned, but it can be attributed to the removal of material from the lymph channels themselves. The reaction of the cornea in its different parts may be changed, that is, so far as alkalinity or acidity is concerned. It may be changed by sluggishness in the movement of the fluids. This is well illustrated in cases of scaling of the cornea by blood pigment. The hemoglobin enters the channels and when it approaches the center of the cornea an acid reaction may change it into hematoidin, which, in acid reaction, is a crystalloid and the blood pigment is crystallized in the tissues of the cornea. This will clear up to some extent and more rapidly if hot boric acid or chlorid of sodium solution is used. This suggests to Dr. Weeks' mind the probable explanation of the clearing up of the cornea under the influence of subconjunctival injections of saline solutions. The stimulation of the exudation from the blood vessels may also, and very probably does, take place as Dr. Risley has suggested.

DR. A. E. BULSON, JR., Fort Wayne, thinks that the reaction produced by the injections of normal salt solution very frequently depend on the depth of the injection. When made

superficially, that is just immediately under the conjunctiva, it is just as efficient as when injected deeply. The reaction may also be dependent on the frequency of the injections. In quite an experience with the method he has found that some patients are particularly susceptible to the injections, some will have a marked reaction from small quantities, and still others will take large injections for weeks with no marked reaction. The effect on hypopyon and conditions of that kind, he thinks, depends largely on the character of the infection. He has found that the injections have little effect on the streptococcic infections or on more severe infections. The frequency of the injections and the length of time over which they are carried out, it seems to him, must also be taken into consideration if physicians are not to be disappointed in the results. A few injections will frequently not produce any decided result, whereas if carried out daily for four or five weeks they will.

DR. S. L. LEDBETTER, Birmingham, Ala., said that ten years ago he began the use of injections of mercury in this way and thought he got some good results, but the pain produced was so considerable and patients complained so much that he finally gave it up and began the use of the saline solutions instead. The results were so favorable that he prepared a paper on the subject of saline injections versus mercury injections and read it before the county society. He was much impressed with the benefits derived from it, but like other therapeutic measures that come and go, and on account of the difficulty to get patients to come with regularity and the inconvenience of carrying out the treatment, he lapsed into indifference and finally abandoned it for other methods. In the last year or so he has used almost exclusively the hot applications with the eye cup, using it two or three times a day and as hot as the patient can bear it. He found that he got practically the same results from the use of the hot normal salt solution in that way as by the injections. He believes that there are conditions in which possibly the injections will give results that can not be obtained from the hot eye baths.

DR. LEARTUS CONNOR, Detroit, declared that the question is primarily one of fact and that Dr. Risley's observations, so far as they are positive, present facts. The reasons for the results may be many. Certainly there is a nervous element in the matter that has to be taken into consideration. The pressure on the eyeball, underneath the conjunctiva, must produce irritation of the terminal filaments of the nerve. The operation, therefore, is not only one of the relation of fluids, but is also one pertaining to the action of the nerves, by reflex irritation on the size of the blood vessels and rapidity of the currents flowing through them, making altogether a complex series of factors. For a great many years, Dr. Connor has obtained good results from the use of very hot water continuously applied; he has written one or two papers bearing on that. An additional help can be had by the judicious use of massage. He said that on returning home, after hearing Dr. Risley, he will try the use of these injections with more faith. The trouble in many cases is the objection of the patient to having a needle inserted in the eye. The other methods they do not object to.

DR. KASPAR PISCHEL, San Francisco, said that some European writers state that they have used the subconjunctival injections of strong saline solution without causing particular pain, but if physicians make the same injections here they are disappointed. Patients here will not stand it like the patients abroad. The patients over there will submit to these procedures without grumbling.

PROFESSOR J. HIRSCHBERG, Berlin, said that Europe is by no means a unity and that he could speak only of the part he knows. He sees also a great many American patients and he can not find so decided a difference between American and European patients. He uses the saline solution in exactly the same way as Dr. Risley and after employing it in thousands of cases he has not had a single patient complain.

DR. S. D. RISLEY stated that he has not had any difficulty in having his patients, either private or public, submit to these injections. He purposely selected groups of cases which have been stubborn and disappointing, and while abroad last summer some of his friends in England permitted him to see their work.

He had just left his own clinic, where a number of patients were getting well under the salt injections, and he suggested to Mr. Snell this method for cases of vascular keratitis, and he said he had had to abandon it because of the reaction and the great pain it caused. Dr. Risley said: "Well, Englishmen must be more susceptible to pain than Americans," and asked him his method of using the injection. The crux of the matter, Dr. Risley said, is the method. He has been doing it for ten years before venturing to say anything about it here and he has never yet seen any untoward result. The eyes will not bear mercurial salts injected under the conjunctiva. A patient who had been under Fuch's care in Vienna, for detachment, was sent here; he had been getting salt injections and had been getting very strong solutions which the eye would bear but once a week and which were placed deep in the orbit. Dr. Risley tried this, but not a second time. He found that Mr. Snell was giving injections in this way and the eyes will not bear it. Whether harm is to be done or whether the method is to be efficient or not depends on the manner of employing it. Dr. Risley has abandoned all but the physiologic salt solution because he abandoned the idea that it was by osmotic action that the benefit resulted. He believes it acts simply by dilation of the lymph spaces and dilution of the contents of the spaces and by hastening the current. The haziness of the cornea may be due to increased contents of the lymph spaces and the clearing up may be due to the change in the contents. He does not believe that it is due to a lymphagogue action or to emptying the spaces of leucocytes. In the thousands of times he has used the injections in the last ten years he has never seen harm result, but chronic conjunctivitis may result from the habit that many people have of daily washing their eyes in salt solution. He has again and again had patients of this kind. When cocain has been employed for a long while, and then salt solution used, it may set up a conjunctivitis, or when very strong solutions are used it may occur. He saw one case in which there was profuse hemorrhage after an injection, but on continued use there was no trouble. If a sterile solution at the temperature of the body is used and the bleb is not made too large—two or three minims are quite sufficient—simply lift up the conjunctiva, place the sharp needle point under it and raise a small bleb—no harm can result. It is often surprising to see how rapidly the bleb disappears.

INCISING AND SUTURING THE LIVER.

A NEW METHOD TO RE-ESTABLISH A CONTINUITY AND FOR THE CONTROL OF HEMORRHAGE.*

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The object of all surgical operations, especially in abdominal work, should be to secure primary union. There is no reason why this principle is not as applicable to the surgery of the liver, providing a proper technic can be employed, so that when the cut liver surfaces are coaptated, the continuity of the organ will be re-established, and complete control of hemorrhage secured.

That liver surgery has failed to keep pace with the surgery of other abdominal organs can easily be ascertained on perusing the literature of the subject. The first and principal reason was the fear of hemorrhage, which, according to Kocher, is almost as true to-day as in the time of Theden, 1795. The lack of knowledge of the healing and regenerative power of the organ offers a second explanation. A third, the danger of

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

infection, resulting in peritonitis, and, fourth, cholemia due to the escape of bile into the peritoneal cavity.

Injuries of the liver, accidental or intentional, even when slight, were regarded until recently as very serious. Thus the old idea that trauma of any sort involving the parenchyma of the liver offers a very grave prognosis, was still adhered to up to the beginning of the last decade.

Theden, as early as 1795, quoted by Mayer,[1] considered hemorrhage the primary danger even in superficial liver wounds, this danger increasing with the injury of large bile ducts. As the ducts and blood vessels are larger on the under surface of the viscus, wounds in this region were considered more serious than on the convex surface. "If not for the above two dangers," he says, "wounds of the liver would not be as fatal." The means employed in combating hemorrhage and cholemia in Theden's time were rest, antiphlogistics, vesi-

Figure 1.

cation, and venesection. Of the direct methods for controlling hemorrhage, compression by tamponade was the most primitive. Mayer[1] has also shown that all surgeons up to the beginning of the nineteenth century regarded injuries of the liver as hopeless. Larrey,[2] 1812, wrote that laceration of the liver with the escape of bile into the abdominal cavity, would always prove disastrous. In 1864, Pirogoff[3] asserted that wounds of the liver were more frequent than the stomach and spleen, and in his experience were always complicated and resulted in death. Holm,[4] 1867, followed by Joseph,[5] Koester,[6] and Hüttenbrenner,[7] demonstrated the healing power of liver wounds. Von Bruns,[8] 1870, during the Franco-Prussian war, was the first to resect liver tissue after an injury, with good results. Luis,[9] 1886, employing a combination of different methods, was the first to remove a solid tumor, which proved to be a benign adenoma. The patient died from hemorrhage.

A review of recent literature reveals the fact that modern surgery has done much to lessen the gravity of the prognosis in liver wounds, either accidental or those left by the surgeon after the removal of various growths.

The most complete statistics are those of Elder[10], in

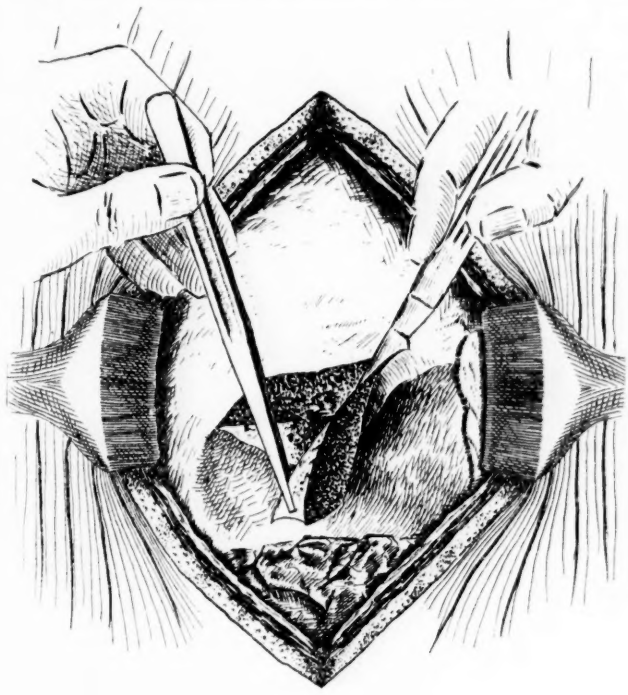

Figure 2.

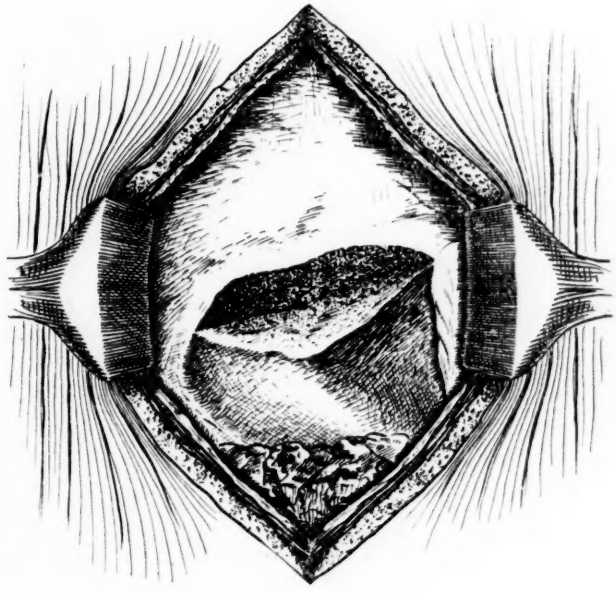

Figure 3.

1887. Of 543 cases collected by this author, he shows a mortality of 66.8 per cent.; 85.7 per cent. occurring in rupture; 55 per cent. in gunshot wounds, and 64.6 per cent. in incised wounds. These statistics are of more favorable cases, and do not include injuries inflicted by the surgeon while removing various tumors.

1. Mayer on Die Wunden der Leber und Gallenblase, 1872, p. 114.
2. Larrey: Memor. de Militarchir, 1812.
3. Pirogoff: Kriegschir., 1864, p. 576.
4. Holm: Sitzungsbericht, vol. lv.
5. Joseph: Arch. f. Microscop. Anat., 1869, vol. 1.
6. Küster: Centralbl. f. Med. Wissensch., 1868, No. 2.
7. Hüttenbrenner: Arch. f. Microscop. Anat., vol. v.
8. Von Bruns: Beiträge f. klin. Chir., vol. iv, No. 1.
9. Luis: Gazz. delle Chir., 1886.
10. Elder: Arch. f. klin. Chir., Berlin, 1886-7, vol. xxxiv, p. 369

It remained, however, for Ponfick,[11] Meister,[12] and others to stimulate the surgeon and make him less timid in his attempts to attack this organ. They demonstrated on lower animals the regenerative capacity of that organ by removing as much as three-quarters of the liver, and showing a return to its normal size by compensatory hypertrophy and hyperplasia.

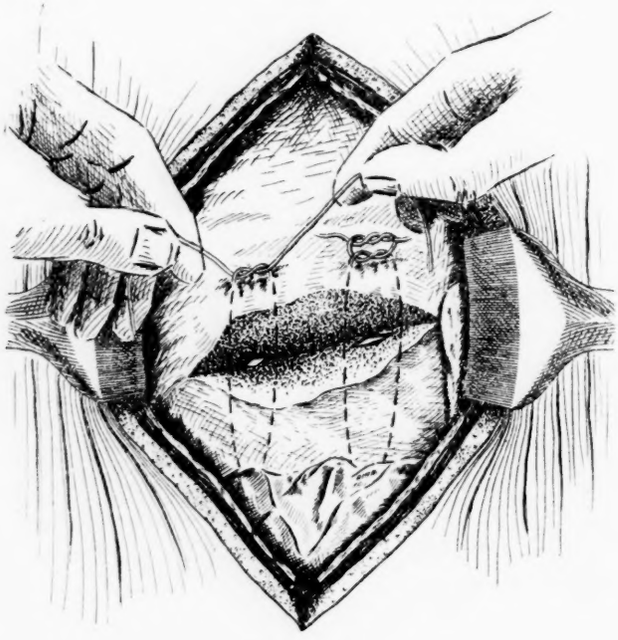

Figure 4.

Figure 5.

The fear of cholemia due to the escape of bile, causing peritoneal involvement, as claimed by the older school of surgeons, had been refuted by Lücke and Tillman,[13] the latter citing a case of von Landerer, with injuries of the gall tract, and the withdrawal through five punctures of twenty-seven liters of bile. Peritoneal complications did not result from its presence, as bile is aseptic and at the same time antiseptic. I concur in these observations from my own clinical experience.

There were many methods in vogue up to the beginning of the last decade, all having as their basis the tamponade alone or combined with the suture, the suture alone being only a recent development.

Elliott[14] classifies the different methods as follows:

1. Packing the wound and fixing the stump extraperitoneally.
2. Packing and dropping the stump into the abdominal cavity.
3. Application of the thermo-cautery to stump and packing.
4. Combination of suture and packing.
5. The suture alone.

This is a broad classification. There are other means, however, that aid the above procedures, or are used in connection with other methods of handling the stump,

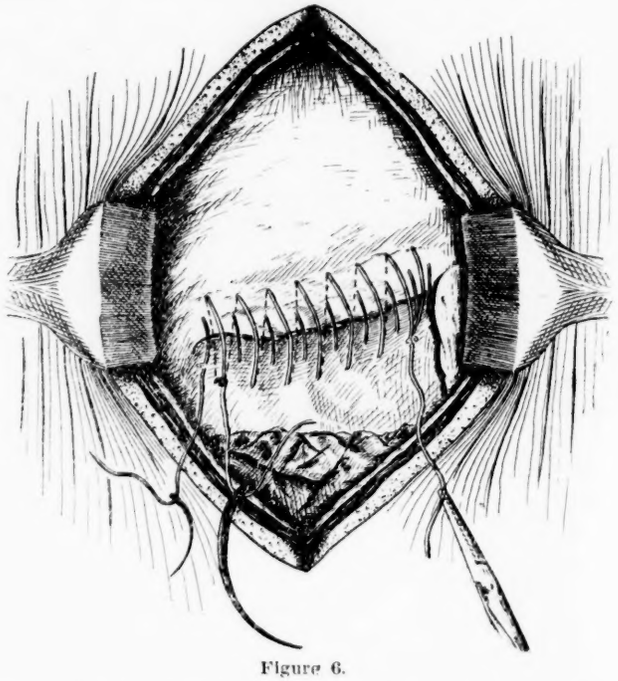

Figure 6.

as ligation of individual blood vessels, as advocated by Clementi[15] and others; ligation of vessels *en masse*, demonstrated experimentally by Kuznetzow and Pensky,[16] and confirmed by Auvray;[17] application of the tourniquet or constrictor, suggested by Terrillon,[18] followed by Israel,[18] Keen,[19] Carl Beck,[20] and others, using the same either for temporary arrest of bleeding, or for the purpose of temporarily constricting the growth to be removed until strangulation of the pedicle takes place. Hahn and Langenbuch[21] ligated the superior and inferior mesenteric arteries; Loretto,[22] Koenig,[23]

11. Ponfick: Verhand. der Deutsch. Gessel. f. Chir., 19 Congres, 1890.
12. Virchow's Arch. f. Path. Anat., vol. lxiii, 189-200.
13. Verhand der Deutsch. Gessel. f. Chir., 1890.
14. Ann. Surgery, 1897, vol. xxv, p. 88.
15. Clementi: VIII Dol. Congres. della Soc. Ital. di Chir., a Roma, 1891.
16. Rev. de Chir., 1896, pp. 501 and 594.
17. Auvray: Rev. de Chir., 1898, Nos. 5, 8 and 9.
18. v. Volkman's Deutsche Chir., 1861, No. 1. Israel: Centralbl. f. Chir., 1891, p. 83.
19. Boston Med. and Surg. Jour., 1892, vol. cxxvi, p. 105.
20. Carl Beck: Jour. Amer. Med. Assn., 1902, p. 1063.
21. Centralbl. f. Chir., 1891, p. 82.
22. Loretta: Congres de Ital. Chir., Neapol., 1888.
23. Verhand. der Deutsch. Gessel. f. Chir., 1890.

and others arrested bleeding by a running suture of Glisson's capsule. Tillman and Lücke[13] advocated the Paquelin cautery, which is still used by many operators. Suegiroff and Koslenko[23] utilized steam; Hollander and Abramowitz[24] used hot air. All of these procedures are employed by the different operators, each selecting the one best suited for the particular case. Other procedures in conjunction with the ones just cited are resorted to in handling the stump. It will be observed, therefore, that the principal object in devising these various methods, was the control of hemorrhage. The re-establishment of the continuity of liver surface was not considered, and hence the development of more proper methods of suturing liver tissue after the resection of large portions of that organ remained thus far imperfect.

Notwithstanding the modern advancement in surgery, Elliott asserts that packing of liver wounds seems to him to have settled surgical treatment of that viscus for some time, if not for all time. I am familiar with the reported results obtained by the combined method

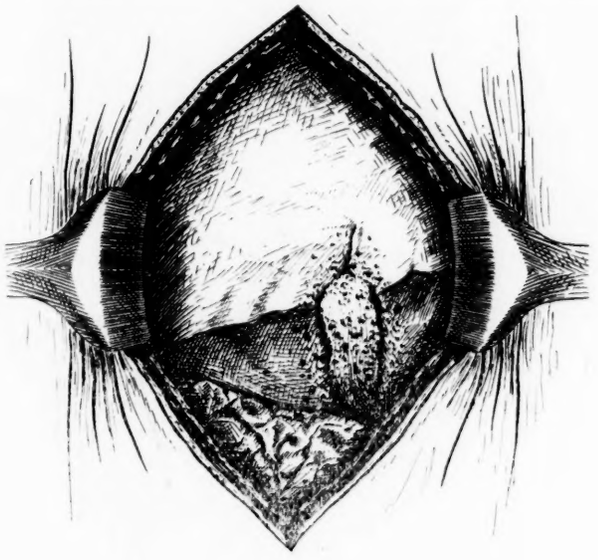

Figure 7.

of tamponade and suturing. I am also cognizant of the fact that surgery of the liver needs advancement, and such advancement is surely coming, judging from the work already done with the suture alone.

It is only a very few years since the Mikulicz drain was employed to control oozing from raw surfaces denuded of their peritoneal coverings, but since we have learned to cover these denuded areas with peritoneum, the drain is dispensed with in a very large number of cases and the closure of the abdomen thus made possible. Therefore, that what is impossible and seemingly difficult to-day becomes possible and very easy to-morrow. The arrest of hemorrhage with the suture in the surgical treatment of wounds of the liver, after resection of large portions of same, has been demonstrated experimentally and clinically. Ceccherilli[25] and Segale[26] employed foreign bodies. One used perforated plates of whalebone, and the other ebony rings strung on catgut, both employing the devices for the support of the suture, which, according to these authors, completely arrested the hemorrhage, thus making the primary closure of the abdomen possible. These foreign bodies had to be left in the abdominal cavity, trusting to their encapsulation. Carl Beck[27] utilized bands of tissue from the abdominal wall, including peritoneum, fascia, and sometimes muscle. The suture is carried through these bands and utilized for its support. Kuznetzow and Pensky,[4] and also Auvray,[15] suture the liver in different ways around the part to be removed, then resect that portion of it surrounded by the suture, leaving a raw surface after resection is completed. These

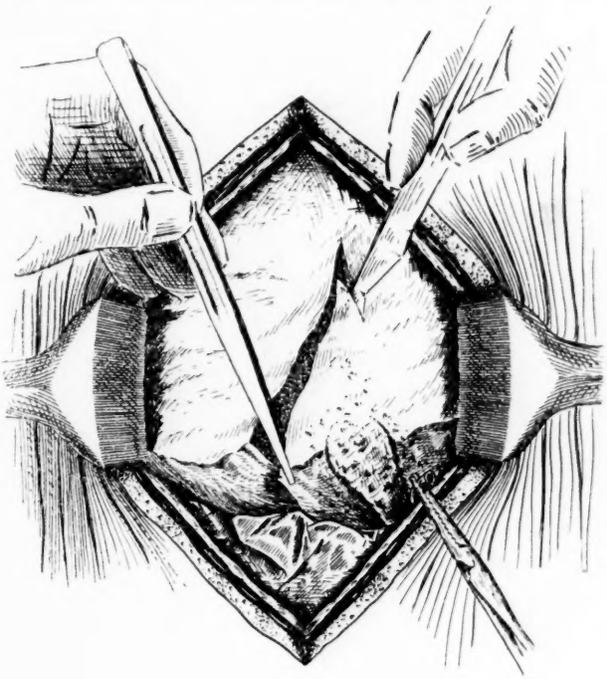

Figure 8.

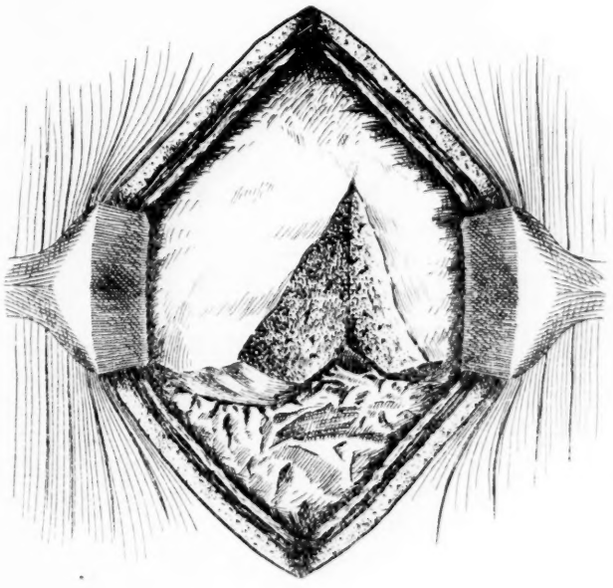

Figure 9.

last-named authors demonstrated by ingenious experiments the possibility of successfully ligaturing liver tissue, since the walls of the blood vessels are sufficiently strong to sustain a weight of from 290 to 1600 grams without rupturing them, and that the isolated hepatic veins are stronger than the arteries.

24. Centralbl. f. Chir., Leipzig, 1902, vol. xxix, pp. 489-92.
25. Ceccherilli: Gazz. d. Osp. e. d. Chir., 1895, vol. xvi, p. 1604.
26. Segale: XIII Internat. Cong. de Med., Sect. de Chir., 1900, Paris. Compt. Rend., 1901, pp. 254-259.
27. Jour. Amer. Med. Assn., 1902, p. 1063.

The clinical results obtained by Carl Schlatter[28] in his reported cases demonstrate the effectiveness of the suture in liver wounds, and the future in store for the surgery of that organ.

He reports five very interesting cases:

1. Stab wound; prolapse of colon and omentum; profuse hemorrhage from liver; wound about one inch wide and so deep

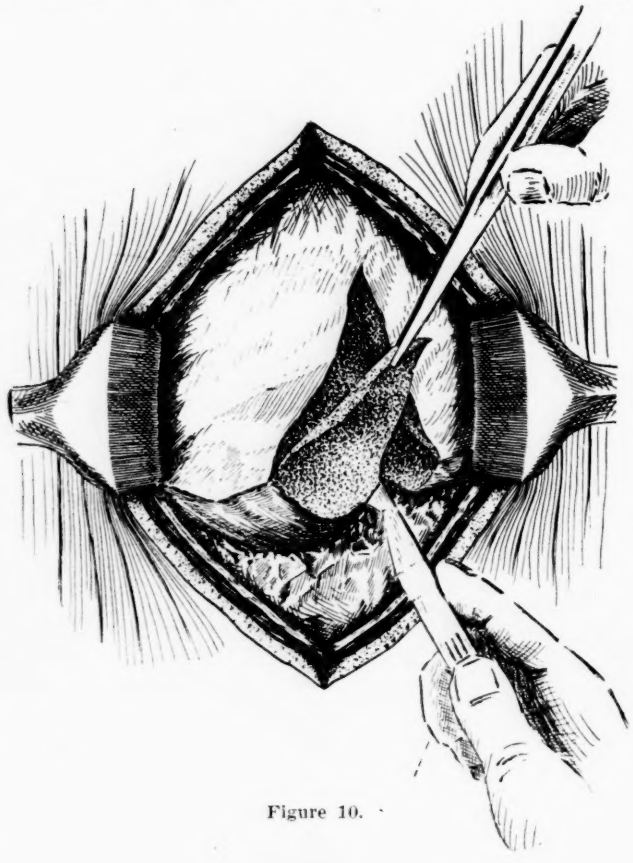

Figure 10.

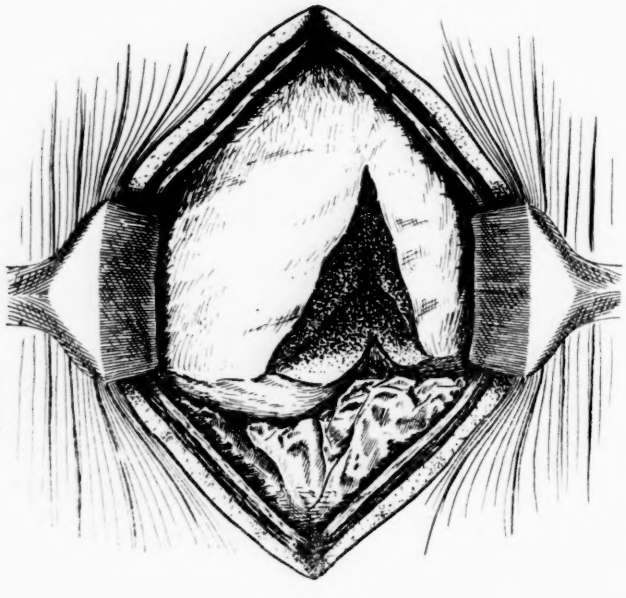

Figure 11.

that finger-tip failed to reach the bottom; two deep sutures of heavy catgut, and two capsular sutures of fine silk; recovery.

2. Gunshot wound (revolver); severe hemorrhage; three deep sutures of heavy catgut to check the bleeding; good recovery made.

3. Gunshot wound of liver by Folbert projectile; the track of the bullet involved the stomach, jejunum, pancreas and the left kindney; patient 17 years old; liver tissue was friable; six deep silk sutures stopped hemorrhage; death after eight hours.

4. Rupture of liver and right kidney; operation two days after; extreme anemia; laparotomy; suture of liver; hemorrhage stopped; saline infusion; death.

5. Almost complete sagittal rupture of left lobe of liver and profuse exudate of bile into peritoneal cavity; laparotomy; suture of liver fourteen days after injury; death.

In only one of these cases (Case 3) was there a tendency for the sutures to cut through the tissues. In this case silk was used instead of catgut, and the tissues were more friable than in the other adult patients.

It will be observed that the results with respect to checking hepatic hemorrhage by means of the suture are very satisfactory, and that catgut is preferable to silk. Schlatter's efforts at suturing large liver wounds are very encouraging. In view of the fact attending the results of the first two cases, Burckhardt's objections to the employment of the suture in large liver wounds do not appear valid.

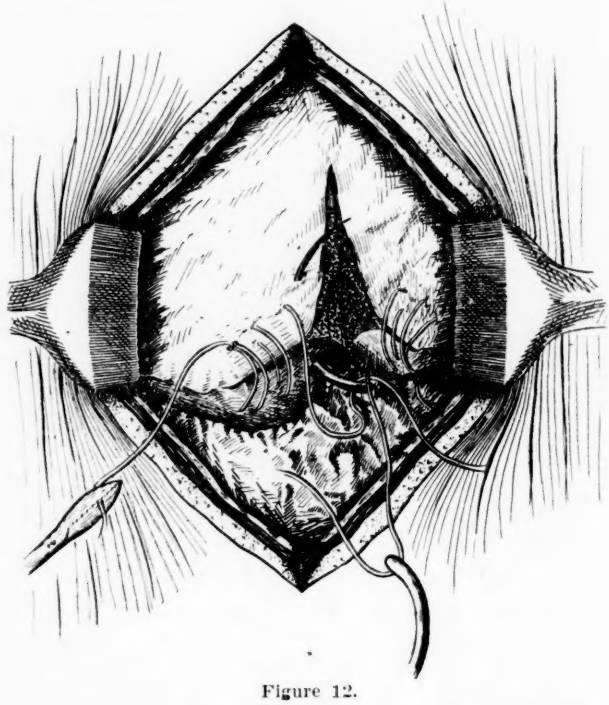

Figure 12.

After studying the subject, I concluded to conduct a series of experiments with the object of finding a method whereby large liver wounds could be successfully managed with the suture alone, re-establishing the continuity of the organ, completely controlling hemorrhage, and closure of the abdomen.

Within the past three years a series of eighteen experiments in all were conducted on dogs. Of these, two consisted in simply incising the liver through its entire thickness, dropping the organ back without suturing it, or making any attempt to control hemorrhage, which was profuse. Both dogs recovered.

In the remaining sixteen experiments the following plan was pursued: Let us suppose a portion of liver is to be resected for either a severe, extensive, crushed laceration, or a growth (Fig. 1). As a rule, these occur more often at or near the lower border of the liver. If the part is to be removed in a transverse direction, the liver tissue is incised on the upper surface, beginning at

28. Beitr. f. klin. Chir., vol. xv, No. 2, 1896.

the healthy border on the hypochondriac side of the growth or injury, carrying the knife around the part to be removed to the border of the viscus on the epigastric side. The incision in the under surface is accomplished in such a manner that both will meet (Fig. 2). If desired, the incision may be commenced on the under surface and completed on the upper surface. The portion of liver thus removed by the junction of the two incisions is wedge-shaped, leaving the organ with two flaps forming a trough (Fig. 3). If the flaps do not fall into coaptation, more tissue should be cut away, as the perfect apposition of the flaps is essential for easy suturing. Before suturing the flaps, any bleeding is controlled either by a single ligation or ligation *en masse*, as the case demands.

The arterial bleeding is easily distinguishable from the venous oozing, and is plainly seen coursing through the dark venous blood. The ligation is accomplished by passing a medium-sized catgut suture through the entire thickness of the liver surrounding the vessel or vessels;

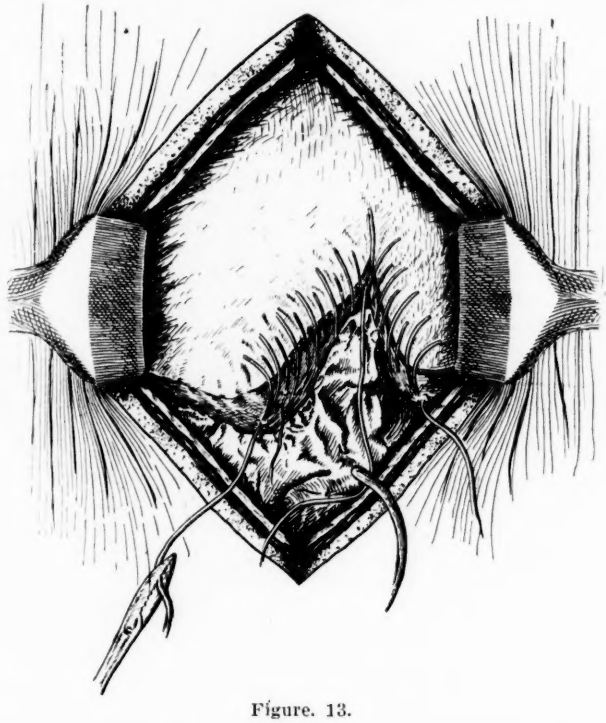

Figure. 13.

a single knot in the catgut is now made, and gradually tightened until the bleeding ceases; the ligation is then completed by taking one or two more knots (Fig. 4). This ligature may cut its way into the liver, producing a slight oozing, which can be controlled by pressure or a superficial suture of fine catgut. As soon as the hemorrhage is checked, the flaps are quickly coaptated, and with a long non-cutting needle, threaded with a medium heavy catgut, a running suture is commenced at one end and rapidly continued in the following manner: One suture is carried through the liver tissue near the bottom of the trough, and then one superficially, and so on alternating until complete closure. It requires but very slight tension to approximate the flaps. (Figs. 5 and 6). The mode of suturing can be varied according to the fancy of each operator. The main object is to bring the two flaps together, *obliterating all dead space. The continuity of the liver surface is re-established, appearing as if a new border was constructed. No raw surface or ragged edge is to be left.*

Let us assume again that a portion of liver is to be removed in a longitudinal direction to the viscus (Fig. 7). The following method is then pursued: A wedge-shaped portion of the entire thickness of the liver is first cut out (Figs. 8 and 9).

The two broad raw surfaces left by the removal of the wedge-shaped piece (Fig. 9) are now converted into troughs. This is accomplished by the excision of wedge-

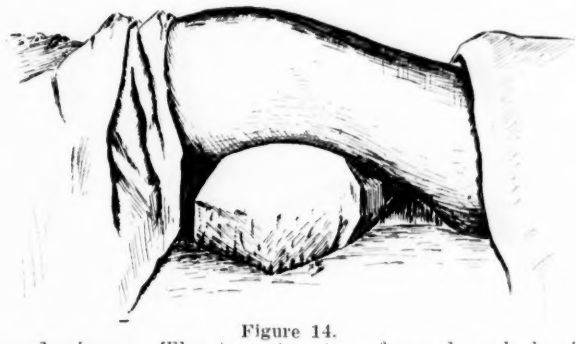

Figure 14.

shaped pieces. The troughs thus formed each having two flaps (Figs. 10 and 11).

When the operation is completed, the raw surfaces of the original V left are transformed into smooth, con-

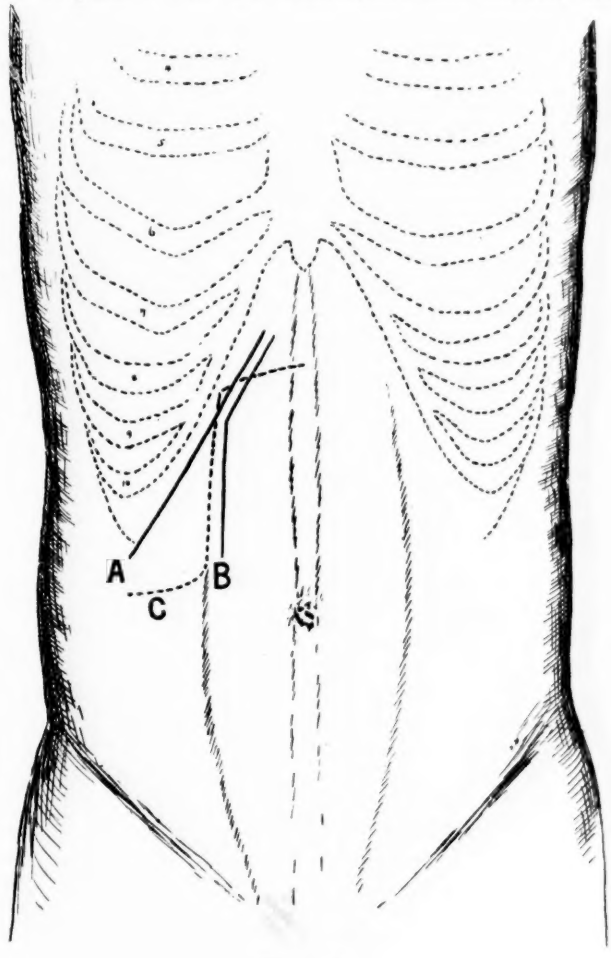

Figure 15.

tinuous liver tissue, assuming the form of liver borders, and the V space left persisting as a notch (Figs. 12 and 13).

This method of incising the liver facilitates easy suturing and does not require any tension on the sutures to coapt the flaps, and, at the same time, hemorrhage is successfully arrested, as was demonstrated in the sixteen experiments. There was not enough blood lost to pro-

duce shock or anemia in any of the dogs. Three died of sepsis. In none of the animals were there any evidences of either primary or secondary hemorrhage or escape of bile. When success was attained with this method of securing easy hemostasis in liver wounds, my curiosity still remained unsatisfied without any logical explanation for such accomplishment. It remained for Dr. Crile, of Cleveland, to offer his very practical explanation, based on animal experimentation and clinical observation, to strengthen my belief in the practicability of this method.

Dr. Crile, in his discussion of this subject, at the Pan-American Medical Congress, held at Panama, Jan. 3, 1905, made the following remarks:

The research of Dr. Frank has given me a valuable suggestion. His observations on the arrest of hemorrhage are in accord with certain facts of the portal circulation, viz., the portal blood pressure is low even in the larger trunks—in the smaller vessels in the liver it amounts to but a few millimeters mercury. Since the principal hemorrhage is venous, it requires but a slight pressure distributed evenly over the bleeding surface to completely control it. The clean-cut incision, securing perfect apposition of the flaps, would require but slight pressure to control the hemorrhage. This pressure is well provided for by the method of suturing adopted by Dr. Frank.

In a recent letter from Dr. Wm. J. Mayo, of Rochester, Minn., I am informed of two cases in which the liver was injured while removing the gall bladder, causing considerable bleeding. In both cases the bleeding stopped promptly on applying the above principle. Dr. Mayo further states that from his experience in these two cases he has no doubt that this method will be of great value in direct excision of the liver.

I believe that with such results from a simple method the surgery of the liver will be revolutionized, and if put into practice operations on that organ will take rank with other modern operations.

My object is not to convey the idea that the foregoing method is ideal. Cases may present themselves where this procedure can not be carried out, on account of the inaccessible locality of the operative field. In the majority of the cases, however, I am convinced, from the limited number of experiments, that the method can be employed with little difficulty.

The question now to be considered is, What portion of the abdominal wall offers the best site for the operative incision? According to Schlatter, the upper portion of the liver, hemmed in, as it is, by the costal framework and by the diaphragm, is in a difficult position for surgical access. The left lobe and the irregular concave under surface is, on the contrary, more accessible. By moderate traction the anterior portion of the convexity, and in a similar manner the almost inaccessible posterior part, can usually be brought within reach, especially if the cushion or sand bag, as suggested by Mayo Robson,[29] is used (Fig. 14). If the site to be reached is located in the left lobe, or is undetermined, a median incision should be made. In wounds of the right lobe a curved incision along the lower border of the costal cartilages and to the right of the rectus muscle, as suggested by Kocher, is preferred (Fig. 15a). In some cases a combination of both, forming an angular incision, as practiced by Mayo Robson,[29] is to be employed (Fig 15b). Dr. Arthur Dean Bevan[29] suggests the use of an S-shaped incision in gall tract surgery, which may be used to good advantage in easily exposing the liver (Fig. 15c).

Since by far the greater number of wounds or growths of the liver are located on the ventral or lateral aspects of the viscus, these plans of attack will suffice. All incisions, whatever may be the choice, should be very large, in order to facilitate easy manipulation and quick work. For wounds located posteriorly, the lumbar incision will not answer, on account of the thickness of the muscular walls. The thoracic wall can, according to Lannelongue, be resected along the anterior portion of the eighth, ninth, tenth, and eleventh costal cartilages, as the pleura does not extend down to this part of the chest wall. Lannelongue's[28] method consists of an incision parallel with the thoracic border, and two centimeters above the same, beginning three centimeters from the border of the sternum, and ending at the junction of the tenth rib with its costal cartilage. The retraction of the divided muscles exposes the costal cartilages to be resected. They are then carefully freed from their attachments and cut through with cartilage scissors. If the ends of the ribs are now retracted and pressed apart, nearly the entire extent of the convexity of the liver can be made accessible.[30]

29. Monyan's Surgery, of Gall Tract.

GALLSTONES IN THE COMMON-DUCT.*

WILLIAM D. HAGGARD, M.D.
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Gallstones in the common duct have been found once in every five cases operated on by Robson, and once in every seven cases of the Mayos. It is estimated that 67 per cent. occur in the duodenal end, 15 per cent. in the hepatic end, and 18 per cent. in the middle of the choledochus. They vary in size usually from a split pea to a nut-meg, although exceptional instances of much larger stones have been recorded. They are usually solitary, though more than one are frequently found.

They sometimes may remain many years. Moynihan speaks of one case removed after 9 years. They usually cause death in from 6 to 12 months from cholemia if the obstruction is complete and unrelieved. I have seen death ensue in 6 weeks from cholemia and infection, with intense jaundice and delirium, in spite of operation, which was only undertaken as a last resort, and which did not apparently hasten the end.

In acute obstruction Kehr advises against operation, not only on account of the high mortality attending it, but because a quiescent period usually ensues, in which jaundice and cholangitis are absent. Moreover he entertains the hope that the stone may, in some instances, finally escape and thus relieve the condition spontaneously. He makes the reservation, however, that it shall not be allowed to go unrelieved longer than 3 months, as usually beyond that time blood dyscrasia will have advanced so far that even operative relief cannot be invoked with safety.

Mayo observes, however, that "unfortunately the majority of common-duct patients have either never had an intermission or have passed beyond it and operation is no longer an election as to time, but a necessity and no matter how desperate, must be undertaken to save life."

30. In addition to the references already cited are the following: Chaot-Provonst: Arch. Prov. de Chir., Paris, 1901, vol. x, p. 198. Centralbl. f. Chir., 1890, No. 30. Wien. klin. Wochenschr., 1892 No. 2. Albert: Wien. klin. Wochenschr., 1890, No. 52. Postemski: Centralbl. f. Chir., 1893, p. 359. v. Hücker Wien. Med. Wochenschr., vol. xiv, xv, 1886. Segon: Bull. de la Soc. de Chir. de Paris, 1887, xiii. Loretta: Congress de Ital. Chir., Neapol., 1888. Pozzi: Gaz. Med. de Paris, June 30, 1888. Ruggi: Dell Epatectomia, etc., Bologna, 1889.

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

If, on the contrary, there is no infection or jaundice or a quiescent period can be attained for operation, the mortality is, in the hands of the Mayos', only 2 per cent. contrasted to the general mortality of, say 10 per cent., in common-duct cases.

It was formerly the custom to look for the presence of gallstones in the feces after attacks of colics, and if found, it was with great delight and the hope that the trouble had reached a happy conclusion. Unfortunately the escape of stones does not occur as often as was commonly supposed, as the great majority of colics are unsuccessful in expelling the stone. Even if it is expelled, it is no evidence that others are not left behind. Indeed the surgeon hardly ever fails to find others in the biliary tract after the escape of one or more in the feces. I have reported one case of 100 stones removed from the gall blader after the patient had recovered a great many, and in another case herewith recorded there were 7 stones in the common duct after the patient had collected 45 during a period of 5 years. Mayo regards the passage of stone as an indication for operation and says, "in no case was operation performed on a patient who had passed stones by the bowel that the gall bladder did not contain more."

It must be remembered that large stones are more liable to ulcerate into the duodenum, stomach or colon than they are to pass through the common duct, and even then others, although much smaller, are likely to remain.

In the invasion of the common duct by stone, beside the colic which drives it, two other elements are concerned—obstruction to the flow of bile, and infection. In many cases the symptom of obstruction is not absolute, and infection is overcome. Unless the stone is tightly impacted, the downward flow of bile tends somewhat to wash away the infectious elements. This is wanting in the gall bladder, and hence infection there, if very virulent, goes on to suppuration, gangrene and perforation. The obstruction, too, is often imperfect, and bile flows alongside of the stone. Even if a round stone completely plugs the lumen, the bile accumulates behind it, the duct distends, and the stone floats back, thereby temporarily relieving the obstruction, and thus the ball-valve stone of Fenger alternately occludes the duct and then allows the bile to escape.

If the stone is impacted the jaundice is absolute. The common duct dilates. It sometimes attains a very appreciable size. It has been so distended as to be mistaken for a distended gall bladder, a pancreatic cyst and a hydatid of the liver. The pain is referred to the back under the right scapula. It is more prolonged. Vomiting is obstinate. Tenderness is present between the xiphoid and the umbilicus. Pressure may be so great as to erode mucous membrane and finally to perforate into adjacent viscera. Gallstones discharged in this manner sometimes cause intestinal obstruction.

The typical symptoms of gallstones in the common duct are very striking and characteristic. They may be enumerated in the order of their incidence in a given attack as pain, chill, temperature, sweating, hypersensitiveness, jaundice.

The pain in the beginning of an attack is usually paroxysmal and cramp-like. It may be dull, aching and rather constant. The patient may have shivering and rigors, or a distinct chill. The temperature then immediately rises, sometimes to 104. Profuse sweating follows and the temperature suddenly drops to normal. It thus has the "steeple" appearance on the temperature chart. Jaundice, if it occurs, usually makes its appearance in a few hours, or if already present, becomes strikingly deeper. The liver is tender and generally enlarged. This sequence of symptoms commonly subsides in a few days, only to go through the same cycle every few weeks.

The ague-like character often causes a diagnosis of malaria to be made, particularly if jaundice is absent or slight. It is also described as the "intermittent, hepatic fever of Charcot." During the jaundice the stools, of course, have the grayish, white, putty appearance, and the urine is beer colored. When the stone is dislodged, the stools are again colored brown with bile and the urine is no longer discolored by it. This very variation of jaundice and stools is most significant of calculous obstruction of the movable type. Frequent repetition of these attacks causes marked loss of weight from the recurring toxemia, and digestive disturbances. The spleen is usually enlarged.

If the fever, instead of intermitting, becomes constant, it indicates a general suppurative cholangitis, abscess of the liver or subphrenic abscess. The infection may extend into the pancreas. Opie has shown that a small stone lodged in the ampulla obstructing the papilla of the duodenum may cause the bile to be forced directly into the dust of Wirsung and cause an acute infective pancreatitis with fat necrosis and death. An acute accession of intense epigastric pain, with sudden shock, muscular rigidity, vomiting and collapse is indicative of this fatal catastrophe. There is no leucocytosis in this condition which distinguishes it from perforative peritonitis.

Riedel and Robson have shown that chronic pancreatitis may be caused from the gradual extension of a chronic infection from common duct gallstones. This, fortunately, is entirely curable by the removal of the cause and drainage. Prolonged jaundice vitiates the blood to such an extent that it leaks out of its proper channels. Subcutaneous hemorrhages occur and bleedings from the mucous membranes. This lack of plasticity of the blood renders operation in the presence of prolonged jaundice dangerous, as uncontrollable oozing often occurs from the incision, that is some times fatal. Chlorid of calcium is said, by Robson, to increase the blood-clotting power, but ecchymotic patches are a contraindication to operation without preliminary treatment.

Another result of prolonged gallstone irritation is primary cancer of the gall bladder and ducts. It was observed in 4 per cent. of 1,000 cases by Mayo. A hard, nodular mass in the region of the gall bladder, not tender associated with loss of weight, preceded by a gallstone history and followed by a lemon-colored, painless jaundice, is suspicious of malignancy.

Gallstones in the common duct are rarely attended with enlargement of the gall bladder. This physical sign serves to discriminate it from about the only other condition with which it may be confused—obstruction of the common duct with jaundice from other causes, principally cancer at the head of the pancreas. The jaundice in these cases is intense and unvarying, and the gall bladder is nearly always enlarged and painless. Courvoisier's law is, "In 80 per cent. of the cases of obstruction of the common duct due to stones there is contraction of the gall bladder, while in 90 per cent. of the cases of enlargement of the gall bladder the obstruction is due to other causes than stone."

The chief reason for a contracted gall bladder with common duct obstruction is the fact that infection of the gall bladder has probably occurred some time before, which has greatly thickened its walls, and perhaps fixed it by adhesions from a pericholecystitis. The gall-bladder contracted in the preceding colics which started the stones on its migration from the gall bladder during the inflammation, and caused the walls to be stiffened with inflammatory exudate while thus contracted. It is, therefore, non-distensible and no amount of obstruction to bile can dilate it. The liver ducts yield and the cells are some times hindered in their secreting function by the pressure, causing the grave type of cholangitis, which together with infection renders this complication of cholelithiasis so desperate.

In distension of the gall bladder the deep, persistent jaundice generally betokens quite certainly the non-calculous origin.

Obstruction by stone and by tumor is differentiated in the following table adapted from Kehr:

	Gallstone Obstruction.	Obstruction by Tumor.
History	Previous colics	Absent
Duration	Years	Only few months, at most a year.
Pain	Always present	Very rare.
Fever	Frequently present	Usually absent.
Jaundice	Variable comes and goes, stools alternately gray and brown	Very intense, stools continuously clay colored.
Palpation	Gall-bladder small and not felt	Large, elastic, distended painless tumor.
Spleen	Enlarged	Normal.
Ascites	Absent	Frequent in malignancy.
Cachexia	May be simulated in neglected cases	Pronounced. Left clavicular glands enlarged.

Obstruction also occurs from (1) cholangitis extending from cholecystitis; (2) adhesions; (3) stone in cystic duct large enough to produce pressure blockage; (4) chronic pancreatitis.

While jaundice occurs as described in the movable or ball-valve stone of Fenger, yet it is not always present where stones are in the common duct. In one of my cases during five years, 45 stones were, at various times in the common duct and were passed *per vias naturales*, and eight were found in a dilated duct at the operation, still he had never had jaundice but once and that for only a few days. Kehr found jaundice absent in 33 per cent. of his cases with stone in the common and hepatic ducts and Mayo says one-third of their patients had little or no jaundice at the time of operation; disappearance of jaundice does not necessarily indicate, however, that the stone has passed.

Jaundice is not, therefore, an infallible sign and should not be looked for in the great majority of cases of gall-stones. The diagnosis can and should be made in most instances before the complications which cause jaundice occur.

In 1902 Robson operated 68 times, with mortality of 15 per cent. In his last 21 cases the mortality was 5.5 per cent. Kehr had 137 cases, with 9 deaths, or 6.5 per cent. Mayo's 137 cases had 16 deaths, or 11.7 per cent. Of the 16 deaths only 7 per cent. died of the immediate effects of the operation, and the other 4 per cent. recovered from the operation, but did not regain sufficient strength to leave the hospital. In this group was the unprecedented record of 30 cases without a death.

The most convincing plea for the earlier recognition of gallstone disease before the complications and common duct obstruction occur, these surgeons, out of 1,000 operations on the gall bladder and ducts did 820 cases where the disease and stones were still confined to the gall bladder with the most surprisingly low mortality of 2.4 per cent. This included acute and chronic infections, local peritonitis, complications, intestinal fistula, etc. In 416 cases of simple gall bladder disease, the mortality was less than 0.5 per cent— equally as good as the interval operation for appendicitis in patients of the same age and general condition.

Inasmuch as obstruction is primarily a purely mechanical condition, it requires purely mechanical treatment—operative removal. This gives opportunity for the relief of the other element—infection, by drainage, and drainage is the secret of success in the treatment of inflammations of the gall tracts.

NON-CALCULOUS CHOLECYSTITIS.*

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The literature bearing on diseases of the liver and bile passages has become voluminous and of late years, since operations for the relief from gallstones has become the recognized treatment for this disease, many books and other valuable contributions have been added having special relation to the surgery of the liver, bile passages and pancreas. Notwithstanding the fact that calculous cholecystitis or cholecystitis associated with gallstones have been well worked out, it is only recently that a class of cases of long-standing gall-bladder disease without gallstones has received attention.

Gall-bladder inflammations designated as acute or chronic catarrhal cholecystitis or the complicating condition known as empyema of the gall bladder or suppurative cholangitis involving the ducts of the liver are well described.

The special form of gall-bladder infiammation referred to in this communication differs somewhat in both the clinical and pathologic relations from the conditions above referred to on the one hand and from the calculous forms of inflammation on the other. It is not contended that the infection differs in character, but rather in degree; that gallstone formation does not occur even in long-standing cases, in fact it would appear that calculous formation was prevented by some condition present in the gall bladder itself.

The symptoms closely resemble those of gallstone diseases, but the classic gallstone colics are absent, although pains somewhat similar to those due to the passage of stones may occur.

The gall bladder has been explored under the diagnosis of gallstones and none found, which has led to the assumption sometimes that the stones had escaped or that there was an error in diagnosis. It has been observed, however, that drainage relieved the symptoms as effectually as in gallstones.

It is now an accepted fact that the chief cause of gallstone-formation is infection, and, while it is known that other germs may be the cause, the most frequent infection is the colon bacillus.

The manner in which the germs gain access to the gall bladder is immaterial here; their presence is the beginning of certain changes in the organ; the type of

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the change it is assumed will depend on certain facts in relation to the activity of the infection. Whatever secondary influences may be operative is immaterial, when it is accepted that germ infection is the essential etiologic factor. The fact that gallstones may remain in the bladder in many cases for an indefinite period without provoking symptoms indicates that the mere stone-forming process is not attended with a very active infection. It may, indeed, be true that active infection is inimical to the formation of gallstones; much support for this contention is found in the associated conditions which appear to have their development about the time symptoms appear, and correspond with those in gall bladders which are empty so far as stones are concerned but are in such a condition of disease as to give rise to distressing symptoms, or even be a source of danger to the patient's life. The discovery of stones in the gall bladder post-mortem without symptoms during life and the apparent chronicity of a calculous condition before symptoms appear, indicate that we must look deeper than the infection which has caused the gallstones for the serious symptoms which brings the patient to the surgeon.

It is when the mechanical influences of gallstones come into operation that they become of surgical interest. First, when they attempt to escape through the cystic and common ducts. Second, when they traumatise the gall bladder and either increase the activity of the primary infection or lessen the resistance of the tissues.

In calculous disease of the gall bladder and bile tracts complicated conditions frequently exist. The simplest is the pure mechanical effects of the passage of gallstones, then comes the transitory or more continued toxemia from obstruction, and then the secondary mixed infections or the pus-forming activity of the primary colon bacillus which constitutes the beginning of stone formation, the immediate exciting cause being the trauma; usually the blocking of the cystic duct. The existence of pus in the gall bladder or an empyema may be said to follow the formation of gallstones if such be found in the gall bladder and not be coexistent primarily with the formation of calculi.

A separate but not altogether different condition is the infection of the gall bladder without the formation of stones. This has generally been designated as catarrhal cholecystitis, but this does not seem to be an entirely satisfactory definition, for it is not shown that the inflammation differs in its origin from the cholecystitis associated with gallstones, but, in fact, is dependent on the same kind of infection, differing only in degree or intensity. The gall bladder, when exposed, presents nearly the normal appearance, but on closer examination the walls appear to be a little thicker than is found in the healthy organ, and the lymphatic glands along the common duct are frequently enlarged. The bile is dark, thick and ropy, and the mucous membrane of the gall bladder is found covered with minute crystals of cholesterin; in some cases the mucous membrane is more or less actively inflamed or even ulcerated. When ulcerated patches are found, the presence of cholesterin crystals is less marked. It would appear that the cholesterin deposit marks a less active infection is rather more than less in the non-calculous yet both conditions may be found in the same gall bladder and may differ in time of development. In the latter the infection is too severe to result in the formation of calculi and prove inimical, even to the secretion of the cholesterin by the mucous cells, or, if the process has once commenced, is arrested by the increasing violence of the infection.

These same conditions may be found in calculous gall bladder, but mark different stages and different degrees of development, but in the non-calculous the milder or stone-forming period has never existed. Experimental evidence in support of the fact that the formation or non-formation of gallstones is largely dependent on the character of the infection as shown in the instances where injection into the gall bladder of virulent cultures produce severe cholecystitis and the injection of attenuated cultures may be followed by the formation of concretions, particularly if the flow of bile be hindered. Of course, it is not possible to state where the line may be drawn as to the condition in the gall bladder which may lead to the calculous and non-calculous inflammations. Clinically it is found that about 4 per cent. of the inflamed gall bladders do not contain calculi, and while the bacteriologic evidence does not appear to show that the infections differ, except in certain cases of empyema where a mixed infection has followed the traumatising or obstructing influences of stones, the infection is rather more than less in the non-calculous cases, and the other evidences of infection are even more marked.

To make our meaning more clear, we make the comparison between the calculous and non-calculous form during the formation of gallstones and not at a time when these stones, by trauma or obstruction, have set up secondary changes in the gall bladder or have invited a new or more virulent infection, or where incidentally a more virulent infection has occurred, in a pre-existent calculous gall bladder, when, according to the contention in this paper, gallstones cease to form on account of an influence exerted on the cholesterin secretion of the glands of the gall bladder.

Certain clinical facts and certain pathologic conditions appear to show that the infection in the non-calculous cases is more serious than the simple primary calculous varieties where the clinical evidence is the sudden, severe, classic, gallstone colic. The pathologic evidence lies in the thickened gall-bladder walls, the varying condition of the mucous membrane from a cholesterin crystal covering to a swollen, softened and, perhaps, ulcerated mucosa; the enlarged lymphatic glands of the common duct and in some cases a chronic, interstitial pancreatitis from the extension of the infection along the mucous membrane of the bile ducts to the duct of Wirsung and on into the pancreas, the organ becoming thickened and so dense as to give rise, at first, to the idea of malignancy. Not only does the infection extend outward, but not infrequently into the liver ducts, inducing a more or less severe cholangitis. In a certain number of cases it will be found that the infection has extended through the walls of the gall bladder and produced a pericholecystitis, as shown by adhesions particularly to the stomach.

The clinical evidence presented by non-calculous cholecystitis often leads to some confusion as to diagnosis. The clear and well-defined evidence presented by the passage of gallstones, the sudden onset of pain and its abrupt subsidence, and the prompt return of the patient to his former state of well-being, present quite a different picture from the more protracted sense of stomach sickness and pain in the region of the gall bladder.

Some degree of jaundice will be found in cases where the mucous membrane of the common duct is swollen, but is of short duration. Plugs of mucus may cause pain in passing through the bile ducts, but of less acute character than stones. The symptoms due to mechanical conditions, as the swollen mucous membrane of the common duct and the plugs of mucus, are supplemented by those of a more general character which are dependent on and are associated with infection as they involve the gall bladder, bile ducts, liver and perhaps the stomach and pancreas.

Chills and fever and pain in the region of the gall bladder and slight jaundice are not infrequently seen, but the jaundice is not very severe or very long continued, unless an associated calculous obstruction exists. The stomach attacks are more frequent and more troublesome than in uncomplicated calculous conditions, and if adhesions to the gall bladder exist some dilatation of the stomach may be found from interference with satisfactory stomach drainage. The symptoms due to the occasionally associated pancreatitis are too indefinite to be positively determined.

It is not intended in this discussion to include the phlegmonous forms of cholecystitis in which infection is so violent as to present the clinical picture and the pathologic findings of acute suppurative cholangitis, but rather the more chronic and less active forms of cholecystitis unattended with gallstone formation and with more or less frequent extensions of infection. In these cases the gall bladder is not contracted and there is no serious obstruction to the flow of bile into or from the gall bladder, and perhaps in the majority of cases the infection is confined to the gall bladder. In the milder forms there is no rise of temperature, or at least very slight, but the symptoms may be complex and lead to a doubt as to the exact diagnosis.

The results of operation in the milder cases of non-calculous cholecystitis are as good as in uncomplicated calculous cholecystitis. While in the more severe the mortality is higher and convalescence more protracted. In the milder cases a cholecystotomy with drainage for ten days results in a speedy cure. In the more severe infections a longer period of drainage is necessary, or it may be that a cholecystectomy is necessary. The more serious forms of infections are illustrated by the following case:

CASE 1.—A woman, 35 years of age, had suffered for a number of years from obscure symptoms of gall-bladder disease. She would have a slight chill, followed by a temperature of 101 or 102, pain and tenderness in the region of the gall bladder, and would be confined to her bed for a week or ten days, after which she resumed her household duties, but never appeared to recover her health fully. She lost somewhat in weight. Examination showed tenderness in region of gall bladder and some dilatation of the stomach. A diagnosis of gallstones was made. On operation the gall bladder was found free from gallstones, the bile was thick and ropy, gall bladder inflamed and thickened and adherent to the stomach. The adhesions were separated and rubber tissue interposed between gall bladder and stomach and the gall bladder drained in the ordinary manner. A fair amount of bile drained and a favorable result expected, but in twenty-four hours the temperature had reached 103, in thirty-six hours 106, and death quickly followed. There was no peritonitis and the fatal result was attributed to a cholangitis.

A second case illustrates a type in which the infection is less severe, but which had extended in a chronic form more widely.

CASE 2.—A man, 26 years of age, had had, four years previously, some attacks which had been diagnosed as gallstone colic, but for the past three years there were no distinctive attacks of pain, yet the stomach distress and nausea was more or less persistent, appetite uncertain and digestion much disordered. At times there was the faintest appearance of jaundice. Physical examination was negative and in the absence of evidence of disease of other organs it was determined that the gall bladder was responsible for the ill health. When the organ was exposed there was little in its appearance to indicate disease. It was moderately filled with bile and no stones could be felt. Its walls were somewhat thickened; the glands along the course of the cystic and common ducts were enlarged and at first communicated the feeling of stones in these ducts. The head of the pancreas was enlarged and firm, giving rise at first to the idea of malignant disease. The pathologic diagnosis was non-calculous cholecystitis with chronic pancreatitis from infection extending from the gall bladder. A somewhat prolonged drainage of the gall bladder resulted in a satisfactory recovery. Much anxiety was experienced for two weeks on account of a temperature from 101 to 103 degrees, which varied from day to day according to the amount of bile drained. Never before the operation while the patient was under our care had we found the temperature above 99.5. We do not attribute the temperature following the operation to any condition of the wound itself, but rather to an infection of the liver.

Our experience has led us to expect more temperature in these non-calculous cases than in uncomplicated gallstone involvement on account of the more widespread and more active infection. This seems to accord with general surgical experiences with operations in actively infected area. Our mortality from operations in this class of cases is even greater than in common-duct cases when the obstruction is not complete and when there has been no chills and fever. If in calculous cases chills and fever have occurred it may be assumed that an additional infection has supervened, or to the same cause and obstruction of the cystic duct, a pus formation and an empyema.

On theoretical grounds the cases considered in this paper indicate a cholecystectomy. In my opinion, it may be accepted as a rule that cholecystectomy is strongly contraindicated in all cases where there is a doubt as to the open condition of the common duct, whatever the condition of the gall bladder. In our cases of non-calculous cholecystitis both the cystic and common duct are freely open, except at periods of swelling of the mucous membrane, which are of comparatively short duration, and yet, notwithstanding this fact, infection has occurred and continued and spread out from the gall bladder at intervals, with greater or less degrees of intensity, to the liver ducts, common duct and even to the pancreas. The whole problem in treatment consists in drainage, and it may be assumed that, as the gall bladder is the chief center of infection, its removal would be the logical surgical procedure, and yet it may not be true that the additional advantage of external drainage may more than compensate for the general unsurgical procedure of leaving an infected structure which may, perhaps, demand a subsequent surgical consideration.

In deciding this question the surgeon will, no doubt, be governed by his ability to determine with absolute certainty if the common duct is equal to the exigencies of the case in affording all the drainage necessary. It would certainly be a much less serious mistake to leave a gall bladder that might safely come out than to take out a gall bladder that it much needed for drainage. The one could be corrected by a subsequent operation, while the other, it is feared, could not be corrected.

DISCUSSION.

ON PAPERS OF DRS. FRANK, HAGGARD AND FAIRCHILD.

DR. A. MACLAREN, St. Paul, Minn., predicted that Dr. Frank's statement would soon be accepted by all, i. e., that the liver is not a dangerous organ to attack, and that hemorrhage is not particularly to be feared. He considered Dr. Frank's flap methods for closing liver wounds very ingenious and very interesting. A simple over and over suture of catgut, passed with a large sized, full curved, round pointed needle and not drawn too tightly, has been found by Dr. MacLaren to control the hemorrhage very readily; if a wide V has been taken out, the raw surfaces must be brought together by transverse sutures of catgut placed in the same way. Recently three separate resections of the liver for gumma with simple over and over suture gave no bad results. Dr. MacLaren believes that the finding of gallstones in the feces is always associated with the presence of other stones in the billiary passages, as Dr. Haggard said. Jaundice is more common where a single stone is lodged in the common duct than where there are several. Dr. MacLaren recently found, after a careful study of his records, that he had operated on 10 cases of perforation of the gall bladder, two of which were of the non-calculous variety. Both perforations of the gall bladder were associated with small abscesses between the gall bladder and the duodenum.

DR. MILES F. PORTER, Ft. Wayne, Ind., although he admitted that the passage of gallstones usually means that there are more in the gall bladder, could not agree that it always means this. In two cases a number of stones were passed, and an operation showed that the last one had been passed. This is not of much importance, except from its politic side. It may be well to inform the patient that possibly the last stone has been passed. In any event, drainage of the gall bladder will usually be required. These cases may go on for a long period of time without symptoms to indicate the serious condition that is present. Dr. Porter has seen a case with a history of gallstone colic ten years before operation, and in the intervening time the woman had enjoyed good health, being free from symptoms pointing to the liver. Obstruction of the bowel finally called for operation, when the cause of the obstruction was found to be a large gallstone which had probably caused ulceration by pressure and this escaped into the bowel.

DR. O. GROTHAN, St. Paul, Neb., considered it misleading to state that the passage of numerous stones by the bowel indicates that others will be found in the gall bladder. Six months ago he operated on a patient who for six or seven years had passed hundreds of stones, and in all this time at certain intervals had taken olive oil. He operated with good faith that he would find stones, but he did not. The gall bladder was very little thickened and the woman has been well since.

DR. CHARLES M. COOPER, San Francisco, spoke from the neglected standpoint of diagnosis. We see many patients with pain in the upper abdomen; in some associated with vomiting; in others, not. The association is valuable as favoring the localizing of the seat of trouble in an abdominal viscus rather than in retroperitoneal structures, e. g., aortic aneurism in which there may be the most intense pain unassociated with vomiting. *Secondly*: Clinical re-examinations can not be made too frequently. The symptoms may be entirely masked at a first investigation, and yet a subsequent one may determine at once the organ involved. Thus, in a patient lately examined nothing abnormal could be detected. An equally full examination after a car ride over irregular streets demonstrated Head's area of hyperesthesia, a tender Robson's point, and pain associated with Murphy's maneuver. *Thirdly*: Mechanical stretching and relaxation of adhesions produced by change of position are of use. Certain movements or positions thus occasioning or relieving pain will sometimes suggest the organ involved and perhaps the nature of the lesion. *Fourthly*: Occasionally epigastric murmurs are associated with gall-bladder trouble, in some cases being directly due to a misplaced gall bladder, in others to a complication. *Fifthly*: The *x*-ray has a corroborative value in abdominal diagnosis. Dr. Cooper has plates which show liver tumors, a Riedel's lobe, a gallstone, shadows due to gall-bladder disease as proved by operation, and a fusiform dilatation of the aorta. The absence of leucocytosis during an attack of gallstone colic is by no means constant. Such attacks are often associated with septic absorption, and not infrequently there is marked leucocytosis which occurs quite quickly and disappears, as a rule, in a day or so, or may be in a few hours.

DR. A. J. OCHSNER, Chicago, emphasized the importance of making distinct flaps because on this depends to a great extent the ease with which the closure of the cut liver surface by first intention is accomplished. He also called attention to the importance of the formation of a clean surface. In a jagged, torn liver it is very much more difficult to stop the hemorrhage and to effect closure of the wound. A third point he mentioned is the slight amount of tension required in suturing a wound in the liver. If these three important points are borne in mind, it matters very little what else is omitted. The danger from hemorrhage amounts to very little if one comprehends these three important points. Dr. Ochsner said that there are a few points in Dr. Haggard's paper which should be emphasized. Acute obstruction of the common duct due to the pressure of stone should not be looked on as an emergency. There was a time when surgeons would operate on such patients at any hour of the day or night, and the mortality was very large. The patient practically always vomits bile before the obstruction becomes complete. This is due to an anatomic fact. The circular muscles of the duodenum are stronger at a point from two to four cm. below the entrance of the common duct than in any other part of this portion of the small intestine. Whenever there is an inflammatory condition, in any movable portion of the body there is some form of provision by which physiologic rest may be established. When anything passes through the duodenum at the entrance of the common duct there is a tendency for the emptying of bile into the intestines. The increased circular muscle fibers form a kind of sphincter which seems to serve the purpose of establishing physiologic rest when the common duct is inflamed as a result of the presence of a stone or sand in its lumen. Nature can be helped greatly in this matter, and the condition be changed from an acute to a chronic one. This can be accomplished by washing out the stomach and withholding food, so that there is no occasion for anything to be passed from the gall bladder through the common duct as the parts are put at rest. The acute condition will then subside. In many of these cases in which from one-quarter to two grains of morphia given hypodermically had no effect, the pain stopped within two hours after gastric lavage had been employed and did not recur so long as no food was given by mouth. It is well to prohibit the use of food by mouth until the acute symptoms have completely subsided and to operate before a recurrence of the attack.

DR. J. H. CARSTENS, Detroit, drew on the blackboard a picture of an instrument invented by Dr. Ross. This instrument will get right under the gallstones. If necessary a couple of sutures may be inserted before using this instrument. Dr. Carstens had stated that he had trouble with the so-called gastroenterologists. They wash out the stomachs and give test meals; the patients are sent everywhere and are treated for acute gastritis. If Dr. Carstens had a case of so-called acute gastritis, with no other symptoms, he should at once decide that there was some gall bladder trouble. It may only be due to the bile being too thick, causing a partial stasis. This, he believes, is a gall-bladder disease, although possibly not gallstones.

DR. W. J. MAYO, Rochester, Minn., said that after operations on the liver, the method of stopping hemorrhage based on the principle of Dr. Frank is well worthy of trial, and that he has practiced it with satisfaction in two cases since his attention was called to it. Dr. Dudley Tait has also brought out a method based on the preliminary injection of hot water into the liver along the line of proposed incision to stop hemorrhage. Dr. Mayo said that the whole question of gall-bladder surgery in connection with the common duct stone lies in the fact that when the disease is confined to the gall-bladder the operation is comparatively simple and will be followed by a very large percentage of permanent recoveries at a small risk, while, when the stones have entered the common duct the whole

of the liver ducts are exposed to infection with possibilities of disastrous complications and secondary conditions. The operation is no longer simple, easy and safe. The question which the patient must consider is whether he can afford not only to continue to suffer from the gallstones but also to be exposed to the serious danger of liver duct infection or to the more remote but nevertheless possible chance of carcinomatous degeneration. In regard to jaundice, Dr. Mayo said that the history will usually show that there was more or less icterus at the time the stone passed into the common duct, although stones may remain in the common and hepatic ducts for years, without jaundice, giving manifestations of digestive disturbance. If the jaundice comes on without pain and does not change more or less in the early stages and especially if a tumor be present, malignancy is to be feared. With stones in the common duct the jaundice will be variable and changeable in the early stages, although later it may disappear entirely or become permanent from obstruction.

DR. J. J. HAMILTON, Caldwell, Idaho, related a case of a Scotchman who had some trouble with his gall bladder. A surgeon operated on him and removed 9 gallstones. Several others coming away from the wound from time to time a year later, the gall bladder again swelling up. The patient requested a young physician to operate on him without an anesthetic, and he refused to do so; the Scotchman returned home and operated on himself with a pocket knife. He removed several stones, made a good recovery and has since remained well.

DR. JACOB FRANK emphasized the importance of taking up liver surgery and putting it on a plane with appendicitis. In all the experiments on dogs there was no attempt to control hemorrhage, but he does not know how this would be in the human being. If there was a tumor situated somewhere along the lower border of the liver, and the operation was done quickly he does not think that there would be any danger to the patient. The dogs showed no signs of anemia. It is strange that there should be very little hemorrhage in liver operation. It looks like a great deal, but it is not, and simply bringing the flaps together controls it. Dr. Grile has explained to Dr. Frank why this is, stating that the blood pressure is very low in the liver. In bringing the edges together the capsule of Glisson is brought together.

DR. W. D. HAGGARD said that when patients state they have passed gallstones, particularly those patients who have had the olive oil treatment, he always insist on seeing the stones, as these so-called olive oil stones are very frequent. The mortality is about 2 per cent. in stones of the gall bladder, and about 1 in every ten when the stones are in the common duct. It is not so much a surgical condition as one of cholemia. Operations should be avoided in acute obstruction of the common duct. Safety lies in the excellent preparation of the patient by preliminary treatment. Dietetic and other means must be employed, and the operation should be made a surface operation. If the gall bladder is used as a tractor, it is practically a surface operation.

DR. D. S. FAIRCHILD declared that it is the experience of many that some of the most serious difficulties arise in the cases in which there are no stones; the cases in which the infection extends from the gall bladder to the liver and pancreas, although this applies to only a very small percentage of cases. It should not be assumed that there are gallstones simply because symptoms are present which are referred to the stomach and gall bladder.

The "Vestiaire" of the Hospitals.—This is the name of a French society which recently held its first annual meeting. It was organized for the purpose of supplying comfortable and respectable clothes for persons just dismissed from the hospitals. As a rule, the poor reach a low ebb in their fortunes before they decide to enter the hospital, and they are financially stranded when they leave it, which interferes with their finding employment. The society already has over 4,000 members, and has collected 12,000 garments and a capital of nearly $4,000. Subscriptions and gifts of clothing are sent to the central office at Paris, rue de Grenelle 42. Debove, dean of the Paris faculty, is president of the new society.

SURGICAL BACTERIOLOGY OF THE MOUTH.*

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In this section, devoted as it is to stomatology, I think that we all must admit that the bacteriology of the mouth should play an important rôle. The subject is of importance to the physician because here we find local manifestations of many constitutional diseases, such as influenza, diphtheria, smallpox, varicella, measles, scarlet fever, tuberculosis, syphilis and scurvy, in some of which at least the specific micro-organisms may be found in the oral cavity. There are also a variety of pathologic processes which occur within the mouth or adjacent bones, many of which are due to pathogenic micro-organisms. Among these may be mentioned tuberculosis, actinomycosis, osteomyelitis, thrush, anthrax, erysipelas, ulcerative and gangrenous stomatitis, pyorrhea alveolaris, and caries of the teeth. To any one who is doing mechanical or surgical work within the mouth the subject is of interest because of the frequency and variety of germs encountered, and, as is well known, these germs may at any time, unless precautions are taken, infect the wounds made. This fact I have seen most painfully and forcibly illustrated by the death of two patients from a most virulent pyogenic infection following the extraction of a tooth.

With the inspired air, with the food and drink taken from our fingers and from foreign bodies introduced into the mouth, a great variety of pyogenic and pathogenic germs gain an entrance to this cavity. The natural warmth and moisture of the mouth, as well as the organic matter so frequently present, then make it a most favorable site for the growth of bacteria. This is true even in healthy persons who do not properly cleanse their mouths, but especially so in those whose oral cavity is the site of some pathologic process.

A very commendable work has been done in the bacteriology of the mouth by a number of investigators. Among these may be mentioned Miller of Berlin, Vignal, Fluegge, Sanarelli, Netter and others. These results have not been uniform, as one might readily expect, for even in the examination of healthy mouths there is a wide difference in the bacterial contents.

For the purpose of carrying on these investigations, the subject was divided into five parts. The first class included clean mouths; the second, ordinary kept mouths; the third, filthy mouths; the fourth, tobacco chewers' mouths, and fifth, mouths in which there were distinct pathologic processes.

In the examination of the first four groups, one hundred swabs were taken from different individuals, dividing them as equally as possible into the different groups. The first twenty swabs were taken from mouths which were sweet and clean and in which the teeth were well preserved and clean. These swabs were washed in a normal salt solution and then used as a medium for further study. First hanging drops were studied. In all instances the hanging drops showed thousands of bacteria of different forms and shapes. Micrococci were found in all of the mouths examined. These varied somewhat in size and number; the most frequent were staphylococci, which were present in every case examined, and in 15 of the 20 cases examined *Micrococcus tetragenus* was found, while in 6 of the cases sarcinæ were discovered; of the bacilli, all shapes and sizes

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were found. Some of these were motile and others non-motile. Some of them were spore-forming and others non-spore-forming; of the spirillæ, both long and short were found. These salt solutions were then plated on agar and gelatin and incubated for further study. On all of the plates the colonies were too numerous for study and it was found necessary to make dilutions of 1 to 100 in order to get the colonies fewer for individual study. These colonies were stabbed off and agar, bouillon, gelatin and Dunham's solution, lactose and glucose bouillon, fermented tubes, lactose and glucose agar shake culture made, besides milk and litmus gelatin. By a minute study of these cultures it was shown that thousands of bacteria noted in the first examination were innocuous and that all but the streptococci (noted in two cases); *Bacillus coli communis* (found in three cases); *Bacillus subtilis, Staphylococcus* (found in all the cases), and the *Micrococcus tetragenus* (found in fifteen cases, were non-pathogenic. Of the non-pathogenic germs a large number were acid and gas producers. Many, though, were species of putrefactive bacteria. There were also a large number of micro-organisms which could not be identified, but which seemed to correspond with those described by Professor Miller of Berlin.

THE ORDINARY KEPT MOUTHS.

In making a study of thirty of these cases, they were found to differ from the well-kept mouths by the fact that the micro-organisms were much more numerous. This was especially marked where small pieces of putrefactive matter were present in the cavities of decaying teeth. The majority of micro-organisms in these cavities were, however, putrefactive germs, and, as they grow with great activity, they may kill out the other germs. In two of the thirty cases the bacillus of influenza was also found.

THE STUDY OF FILTHY MOUTHS.

In the majority of these cases there were pathologic processes going on in the mouth, such as decayed teeth, suppuration of the gums or small ulcers. In two cases thrush was present. In all of these filthy mouths millions of bacteria were present and a much larger per cent. were virulent. The pneumococcus was present in ten of the thirty cases. In the cavities of decaying teeth large numbers of acid producers and putrefactive bacteria were present. In the cases of pyorrhea large numbers of both *Staphylococcus pyogenes aureus* and *albus* were found. In three cases of abscess *Staphylococcus pyogenes aureus* was demonstrated. In two of these there was also *Staphylococcus pyogenes albus*, and in one *Staphylococcus pyogenes citreus*. In a large number of these mouths *Micrococcus tetragenus* was also present. In a great many cases putrefactive germs were well pronounced and gas formation very marked. The foul breath in these individuals is probably due to these obnoxious gases given off by the activity of these germs.

TOBACCO CHEWERS' MOUTHS.

An examination of these cases shows that the tobacco chewer's mouth is more filthy than the ordinary filthy mouth. The examination also shows that the tobacco had no restraining influence on the growth of bacterial activity. The majority of these mouths were pathologic and contained decaying teeth, small ulcers and suppurating processes about the teeth. It was not apparent that the tobacco was the cause of the decay, only that the individuals were less careful of the condition of their mouths.

BACTERIA SPREAD BY COUGHING.

Examinations were made to determine the number of bacteria thrown from the mouth in ordinary conversation, forced, explosive expiration and in coughing.

A plate exposed for two minutes just in front of the mouth during ordinary conversation showed 235 colonies. A plate exposed for one minute at the distance of five feet during forced expiration showed 105 colonies. A plate exposed for one-half minute at the distance of five feet during explosive expiration showed 192 colonies. A plate exposed at a distance of ten feet showed 35 colonies after five forcible coughs. A plate exposed at a distance of 20 feet showed a development of 23 colonies after ten forcible coughs. These examinations were made in a bathroom which had no ventilation and was practically free from germs, so that a plate exposed for five minutes in quiet showed the development of but three colonies. In other experiments plates were exposed at the distance of five feet and coughed at five times forcibly with one, two and three thicknesses of gauze in front of the mouth. The plate exposed with one thickness of gauze in front of the mouth showed a development of 156 colonies. The plate exposed with two thicknesses in front of the mouth showed a development of 35 colonies, and the plate exposed with three thicknesses in front of the mouth showed a development of 8 colonies.

EXAMINATION OF BACTERIAL CONTENT OF SPECIAL PATHOLOGIC PROCESSES.

CASE 1.—A child 3 months old. A swab was taken one day after an operation for hare-lip, before cleansing the mouth. The swab showed the presence of *Staphylococcus pyogenes aureus* and *albus* and the *Micrococcus tetragenus* in large numbers. There were also many non-pathogenic bacteria. After the mouth had been cleansed by washing it out with peroxid of hydrogen in water, 1 part to 3, a swab was taken which showed the *Staphylococcus pyogenes aureus* still present, only in much fewer numbers.

CASE 2.—Epithelioma of the lower lip. Swab taken before cleansing showed *Staphylococcus pyogenes aureus* and *albus* and *citreus*, the *Streptococcus pyogenes* and large numbers of putrefactive germs, as well as many non-pathogenic bacteria. After a thorough irrigation with normal salt solution, a swab was taken which showed an absence of the streptococcus; the diminution in number of the other germs, although they were still present in great quantities.

CASE 3.—Carcinoma of the upper jaw producing ulceration of the gums. A swab taken before cleansing shows a large number of acid producers, putrefactive bacteria, *Staphylococcus pyogenes aureus, albus* and *citreus*, a number of streptococci and *Micrococcus tetragenus*. Large numbers of fungi of different kinds were also found on this swab. The swab taken after irrigation with normal salt solution showed little improvement in the bacterial content of the mouth.

CASE 4.—Epithelioma of the tonsil. Swab taken before cleansing the mouth showed thousands of bacteria of all kinds and shapes. There were present the *Staphylococci pyogenes aureus, albus* and *citreus*, large numbers of *Streptococci pyogenes* and also the pneumococcus. The swab taken after the cleansing with normal salt solution showed a great reduction in the number of germs, but the pus cocci were still present in small numbers. The pneumococcus could not, however, be demonstrated.

CASE 5.—Epithelioma of the cheek. Swab taken before cleansing showed a great number of germs of all sizes and shapes and also a great number of fungi, including yeast fungus. The majority of these germs were putrefying bacteria. The pus germs in this case were present, but not so numerous. After an irrigation with one-half gallon of normal salt solution through a fountain syringe, the swab taken

showed but few pus cocci, while the putrefactive germs and the fungi were greatly reduced in number.

CASE 6.—Sore mouth in child. Swab taken before cleansing showed numerous bacteria, some of which I was unable to identify. There were also large numbers of actively motile bacilli, as well as acid and gas producers. After cleansing with a mild antiseptic, but very few bacteria were found.

CASE 7.—Sore throat. Swab taken before cleansing showed numerous staphylococci and long threads of streptococci. The swab taken after gargling for five minutes with a teaspoonful of an antiseptic solution in a small glass of water showed very few pus germs and these seemed innocuous, for they would not grow on culture media.

CASE 8.—Acute pharyngitis. Swab taken before cleansing showed a large number of staphylococci, streptococci, also the bacillus of influenza and Friedlander's bacillus. Swab taken after cleansing with antiseptic gargle showed numerous staphylococci and streptococci, but these seemed innocuous, as there was but a single, thin growth of *Staphylococcus pyogenes aureus.*

CASE 9.—Canker of the mouth. Swab taken before cleansing showed numerous forms of bacteria, including staphylococci and a large branching fungus. Swab taken after cleansing with peroxid of hydrogen was negative.

CASE 10.—Patient had had both tonsils removed several days before examination. Swab taken before cleansing showed great masses of staphylococci and streptococci. The streptococci could not be cultivated. The staphylococci on cultivation proved to be *Staphylococcus pyogenes albus* and *aureus.* Swab taken after cleansing with peroxid of hydrogen showed only a small number of staphylococci which were grown with great difficulty and did not fully regain their power or growth until they were transversed three times onto fresh nutrient agar and incubated at 37 degrees.

CASE 11.—Girl, 19 years of age. Patient has consumption and several cavities in one lung. Swab taken before cleansing mouth showed a large mass of bacteria, pus cells and epithelial cells. A simple covered glass smear stained for tubercle bacilli showed them to be present in large numbers. Besides, there were large groups of staphylococci and long threads of streptococci. There were also numerous ordinary forms of bacilli and fungi. The presence of pneumococcus was demonstrated. The swab taken after cleansing the mouth and throat with antiseptic showed staphylococci and streptococci, a few tubercle bacilli together with some pus cells. These germs, however, could not be cultivated.

CASE 12.—Girl, aged 10 years. Part of tonsil, soft palate and part of posterior wall of pharynx covered with an adherent, grayish-white membrane. Swab taken before cleansing showed, besides numerous other bacteria, the presence of the bacillus of diphtheria. Swab taken after brushing with peroxid of hydrogen and then cleansing by gargling with a teaspoonful of peroxid in a glass of water showed numerous bacteria, including staphylococci and many bacilli, but none of them would grow.

CASE 13.—Pyorrhea alveolaris. Swab taken before cleansing showed, besides large numbers of bacteria, most of which were gas and acid producers, the presence of masses of *Staphylococcus pyogenes albus* which was grown in pure culture. Swab taken after cleansing with lysol showed but very little change except in numbers, the bacteria growing quite as well after the cleansing as before.

CASE 14.—Swab taken from a cavity in a carious tooth showed a great mass of bacilli and fungi. On cultivation, the bacilli were found to be composed of masses of the proteus group, of which the *Proteus vulgaris* was isolated and the *Bacillus acidi lactici* obtained in pure culture.

CASE 15.—Sarcoma of the lower jaw with very little ulceration. Swab taken before cleansing showed, besides masses of pus cells and epithelium, large amounts of disintegrated tissue, also large quantities of bacteria, staphylococci and streptococci. The two latter seemed, however, to have lost a great deal of their virulence, for the putrefying germs soon outstripped them in growth. Swab taken after imperfect cleansing with a carbolized solution still showed the presence of bacteria of different sizes and kinds, but they would not grow, owing probably to the presence of carbolic acid.

CASE 16.—First stage of pyorrhea. The swab taken before cleansing showed considerable blood and enormous masses of bacteria of all descriptions. These included *Staphylococcus pyogenes aureus* and *albus.*

CASE 17.—This patient had his lower jaw resected two days previously on account of a sarcoma. Swab taken before cleansing showed masses of pus cells and epithelium, also masses of bacteria of all shapes and sizes, together with long threads of fungi. There were *Staphylococcus pyogenes albus,* also *Micrococcus tetragenus* and *Bacillus pyocyaneus.* A swab was taken after cleansing by rinsing with an antiseptic solution, and showed some diminution in the number of microorganisms.

CASE 18.—Same patient. Swab taken before cleansing four days after operation showed about the same condition as previous instance, but the swab taken after thoroughly syringing the mouth with peroxid of hydrogen and then washing out with a normal salt solution showed no visible growths.

A study was then made of the comparative number of bacteria present in healthy mouths before and after different methods of antiseptization.

First.—Thoroughly scrubbing the gums with a stiff brush and warm soap water, afterwards rinsing thoroughly with a normal salt solution and rubbing with a sterile gauze from two to five minutes. This will render the mouth sterile in two out of five cases and will reduce the number of germs in the other mouths from thousands to only a few colonies.

Second.—Rinsing the mouth with mild antiseptics, such as boracic acid, thymol, 30 per cent. solution of alcohol or a weak solution of chloroform. It was found that simply rinsing the mouth had little effect on the bacterial content. This seemed to be due in a large measure to the secretions of the mouth, which come rapidly and neutralize the antiseptic used. If the mouth was first scrubbed well and then an antiseptic used, a practically sterile condition was obtained.

Third.—Disinfectants were next tried and the mouth thoroughly rinsed with either 1 per cent. carbolic acid solution or 1 per cent. solution of formaldehyd or a solution 1 to 10,000 bichlorid. After the rinsing, the mouth was scrubbed, using the normal salt solution, the result was found to be practically the same as in Number 1, that is the mouths were rendered practically sterile.

SUMMARY.

In twenty examinations of clean mouths, the greatest number contained staphylococci, 15 *Micrococcus tetragenus* and 6 sarcinæ; of the bacilli, all shapes and sizes, both motile and non-motile, spore-forming and non-spore-forming, and long and short spirillæ were found. Streptococcus was noted in two cases. *Bacillus subtilis, Bacillus acidi lactici* and *Bacillus butyricus* were also found.

In one instance *Bacillus prodigiosus* and in three *Bacillus coli communis* were found. In all the cases large numbers of gas and acid producers were found, also several species which could not be identified. In eight of the cases, the pneumococcus was found.

The study of ordinary kept mouths shows more bacteria than in well kept mouths, the putrefactive microorganisms being especially numerous. In two cases of this group the bacillus of influenza was found.

In the third group, the filthy mouths, are found many pathologic processes. In two there was thrush and the organisms of this disease demonstrated. In these filthy mouths millions of bacteria were present and a large

number were virulent. The pneumococcus was found in ten of the thirty cases. In the cavities of teeth large numbers of acid producers as well as a great many putrefying bacteria were found.

In the tobacco chewers' mouths, no new organisms were found. In two special pathologic conditions, the *Staphylococcus pyogenes albus* and *aureus*, and the *Streptococcus pyogenes* were found. The *Micrococcus tetragenus* was frequently present. Acid and gas producers, putrefactive bacteria, sarcinæ and fungi were found. Numerous cocci, the yeast fungus, the bacillus of influenza and Friedlander's bacillus were isolated.

In diphtheria and in consumption the germs of these diseases were shown to be present in the mouth.

From the foregoing experiments, it is apparent that the number of micro-organisms, both pyogenic and pathogenic usually present in even healthy mouths is considerable. While in filthy mouths and in those which are the site of pathogenic processes, the number and variety of micro-organisms are greatly increased.

These experiments, though very incomplete, seem to indicate that mechanical means are most to be relied on in an effort to render the mouth sterile, and that the disinfectants, with a possible exception of peroxid of hydrogen, are of only secondary value.

DISCUSSION.

DR. J. MARSHALL, San Francisco, said that those having any experience in handling fractures of the jaw, note that about 90 per cent. of all compound fractures of the jaw suppurate. He has operated on those patients without any more disinfecting than washing out the mouth, but has learned from experience that if the mouth is thoroughly cleansed and all salivary deposit removed, and the mouth thoroughly washed with an antiseptic solution, the appliances put in, followed by antiseptic treatment throughout, it is possible to reduce very materially the number of cases in which there is suppuration after the injury. He performs many operations for fractures of the jaw by suturing the jaw, and when he first began he did it with fear and trembling, thinking that in all probability he would get infection through the openings in the bones for the wire sutures. At first he thought that he had, but later found that the trouble originated before that. In most of these cases the patient is not seen for from a few hours to several days after the injury, and infection has already taken place. In cases lasting but twenty-four hours, he has only had 4 or 5 per cent. following compound fracture. He emphasized the fact that if mouths could be kept absolutely clean, dental caries, pyorrhea, inflammations, gingivitis and stomatitis of any kind would be impossible. He does not think we have yet reached the point where we really understand the value of clean mouths. He thinks that if more time were spent teaching patients the value of prophylaxis more good would be done. The work should be begun with children. It would prevent much trouble later on. In his work in the presidio at San Francisco Dr. Marshall found the mouths of the soldiers in a most horrible condition. He had some placards printed and put up in public places "Clean teeth do not decay," and others, "Do not ask the dentist to treat your teeth until you have brushed them." The difference in the condition of the teeth of those men who were there for some time was surprising. Many of them had never owned a tooth brush. After educating them awhile they came with clean mouths and with less disease.

DR. G. V. I. BROWN, Milwaukee, said that in the first place it is an interesting fact, known perhaps, but not considered sufficiently, that if one had been performing a surgical operation in those several mouths and could not or did not use antiseptics, he would probably, so far as pus germs are concerned, have better results in the dirty mouth than in the clean one. With Dr. Brown it is a grave question sometimes how much or how little good antiseptic measures do. Until someone can demonstrate that it is not valuable to disinfect he, of course, will continue on that line, but if those who have demonstrated that there are properties in this saliva or this mixed secretion that have a beneficial action in health, then of course it must be admitted that by the dilution of that fluid injury is done rather than benefit. Dr. Brown made some tests years ago in the following manner: Taking cultures from mouths that were not disinfected in any way—so-called dirty mouths—he, of course, got a great deal of bacteria. Disinfecting with bichlorid for a considerable time in some instances gave practically no result in cultures taken. Following this a solution of carbolic acid was used, stronger than he should want to use for operative purposes, and some essential oil, and after all this he was able to get growths from cultures taken from the same mouth by scraping away some of the superficial cells; he found living germs underneath. He found that he could get good results by using peroxid of hydrogen, which is also a germicide, but is superficial. By using this and then a germicide, he got better results. Mechanical cleaning, H_2O_2, and then a germicide gives the very best results. It is a foregone conclusion that a state of pure asepsis cannot be reached. Even if it were, at any moment it is likely to be disturbed by secretions of one kind or another. The only thing left to do, therefore, is to use as much mechanical force in cleansing as possible, and then to depend on the frequent use of dilute solutions of antiseptics and germicides.

DR. M. I. SCHAMBERG, Philadelphia, said that this paper should be a valuable adjunct to medical as well as to dental literature for the reason that it will recall the general surgeon to the urgent need for protecting the patient in laparotomies, brain surgery, etc., from infection from the mouth. Careful operators, who have spent much time in preliminary preparations are frequently seen to stand over a patient with open abdomen and describe the conditions there, and it is quite likely that they frequently cause infections with germs from the mouth.

DR. M. L. RHEIN, New York, said that Dr. Levings' views differ materially from our clinical experience with tobacco mouth. It has always appeared to Dr. Rhein that the consensus of views is that a tobacco mouth, other things being equal, will present a decidedly smaller number of colonies on examination than another mouth. It is known that however sterile the oral cavity is made the durability of that condition is extremely limited. The one practical point to Dr. Rhein has always been that with the average practitioner, whether he be distinctly a stomatologist or a medical man, failure in this respect is due to a lack of cleanliness. The advantage of a method approaching a condition of sterility as closely as possible is of undoubted value, and the whole point resolves itself into a question of time. The practitioner has not the time to devote to this purpose.

DR. G. V. I. BROWN, Milwaukee, declared that the value of experiments with regard to infection from mouths covered with gauze is far reaching. In clinics in some of the best institutions in this country, surgeons and nurses with rubber gloves may be seen and every possible precaution against infection is taken, and the surgeon, perhaps, may have a beard or moustache uncovered; at any rate his mouth has no special cleaning, and yet he will discuss the cause and talk right over the open abdomen. Some surgeons are more particular and do cover their mouths. The piece of gauze already prepared to drop over the mouth is advisable. Dr. Brown covers his face with several thicknesses of gauze. He thinks that this is a very important point and a great credit to the section.

DR. JOHN MARSHALL, San Francisco, stated that for the last few years in most of the large hospitals these precautions have been followed, the surgeons covered their mouths not only with one or two thicknesses, but with four or five, particularly when performing laparotomies.

DR. VIDA A. LATHAM, Chicago, asked Dr. Levings how he overcame the tremendous ingrowth of the sacromycetes group. Dr. Latham has just finished a number of experiments in the oral cavity and said that she has been practically overwhelmed with the yeast growth, and that the yeast organism is a prominent organism in the mouth. She also asked Dr. Levings what position he gives to the *B. coli communis*, and whether he is inclined to class it as an allied form to the streptococcus. It has been shown that the coli communis is allied to the pus

group. If this is so, this is a cause of peritonitis, cellulitis, etc.

DR. H. P. CARLTON, San Francisco, asked what is the use of having training schools for dental nurses if there are no medical dentists.

DR. A. H. LEVINGS stated his belief that the bacteriology of the mouth is better understood, as it should be, by the dentist than by the physician, and that the former is a better judge of the bacteriologic contents of the mouth than are physicians ordinarily. He is not aware of any experiments that bear out the statement that the tobacco mouth has fewer organisms than any other mouth. He believes that these arguments are advanced by persons who use tobacco. He classes *B. coli communis* simply as a pus germ—as a pyogenic germ—one of the germs that are most frequently to be dealt with in the intestinal canal and in the abdomen, and certainly it is largely a pus germ. It is the cause of nearly all the pus abscesses in the abdomen. Dr. Levings has found it in many cases in pure culture in abscesses about the appendix, intestinal canal and gall bladder. The yeast germ, he believes, is not found in sufficient quantity to interfere with investigations. If experiments prove anything, they prove that all mouths are filthy, in the sense that they contain pyogenic or pus-producing micro-organisms. In order to render a mouth reasonably aseptic, it is necessary to do something more than gargle or wash; it must be scrubbed out, and on this point he disagreed with Dr. Brown that after rinsing and gargling the mouth masses of bacteria can be scrubbed off from the gums. These particles of foreign materials containing the micro-organisms must be detached by mechanical means, and after that the mouth can be made aseptic and can be kept practically clean by the use of antiseptics. In the education of the dentist, Dr. Levings believes that there are many branches of medicine which are practically useless, and that the prospective dentist is the only individual to be considered. What is good for the dentist is going to be good for the public. When the dentist is properly educated, he is in a position where he can deal most satisfactorily with the public.

THE ORAL MANIFESTATIONS OF DIABETES MELLITUS.*

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Within the last twenty-five years, a vast amount of literature has been produced concerning the etiology, pathology and therapeutics of pyorrhea alveolaris, and, with it all, to-day we are about as far away from its true etiology as in the days of Celsus, who probably was the first medical writer to call attention to this ailment. To J. M. Riggs of Hartford, Conn., American dentistry is indebted for first calling the attention of the profession to this disease in 1869, although it must have been recognized by him as early as 1844. Rehwinkel is usually quoted as being the first (1877) to use the term pyorrhea alveolaris, a name which he borrowed from Albrecht of Berlin. This term, however, is of French origin and is employed for the first time in an article published by Toirac-Desirabode[1] in 1839, in which he speaks of the disease as *pyorrhea alveolodentaire*. Fauchard, in 1746, described this disease as a "kind of scurvy" and Jourdain (1778) seemed to be of the same opinion, although he more particularly emphasized the fact that a pyogenic destruction of the gingivæ and alveoli is concomitant with the other symptoms. Ever since innumerable names have been suggested by the various writers, usually christening the ailment according to their conception, with the most prominent symptoms, such as "cemento-periostitis" (Magitot), "arthro-dental gingivitis" (Galippe), "gingivitis expulsiva" (Marechal de Calvi), "caries alveolaris" (Essig), "interstitial gingivitis" (Talbot[2]), "*atrophia alveolaris præcox*" (Baume), "phagedenic pericementitis" (Black), "syphilitic locolosis alveolaris" (Curtis), "caries alveolaris idiopathica" (Greve[3]), "caries alveolaris specifica" (Arkoevy[4]), "blennorrhea gingivæ," etc., etc. At the last Union meeting of the American Dental Societies of Europe, held at Basel in December, 1904, W. J. Younker of Paris suggested these two names: "Alveolitis calcophagia" and "alveolitis calcica."

For convenience sake, we may define pyorrhea alveolaris as a chronic destructive inflammation of the pericementum, with more or less necrosis of the alveolus of the affected tooth. The causative factors of the disease, according to Miller, may be classified as follows: Predisposing causes, local disturbances, and bacterial infection. The predisposing causes are such factors which lessen the resistancy of the tissues to injuries, viz.: constitutional or local diseases, metabolic disturbances, tuberculosis, rachitis, scorbutus, syphilis, locomotor ataxia, chronic dyspepsia, malaria, diabetes mellitus, metal intoxications, and other disturbances. Some of these enumerated diseases do not produce definite symptoms in the oral cavity; others, again, manifest themselves in the causation of a distinct form of pyorrhea alveolaris, which, according to some clinicians, is classed as a prodromal sign of the primary disease. This seems to be especially true of diabetes mellitus.

Diabetes mellitus is a disease of impaired nutrition. Faulty metabolism, resulting from the materially reduced power of the body to burn up grape sugar, is the causative factor. Postmortem examination of diabetics usually shows very few or no morbid changes of the organs, with the exception of the brain. The sequence of this inhibition of chemical changes in the body is the presence of sugar in the blood of the diabetic which results from the diminished destruction of the sugar, and, as a consequence of this incomplete oxidation, oxybutyric acid, aceto-acetic acid and acetone are formed, which, with the sugar, are excreted with the urine. The nervous system being the controlling factor of the chemical changes in the muscle tissue, it seems proper to suspect certain disturbances which originate in the central nervous system as the primary factor of diabetes mellitus, the more so as certain pathologic signs point in this direction. The fact is verified by performing the classical experiment of Claude Bernard, which consists in puncturing the floor of the fourth ventricle mid-way between the auditory and the pneumogastric nerves. Thus, an artificial diabetes, which is to say, passage of large quantities of sugar with the urine, is produced which may last for several hours. It is a long and well-known fact that pathologic disturbances of the pancreas are responsible for the production of diabetes; von Mering and Minkowski operated on more than fifty dogs, and, when the complete extirpation of the pancreas had been successfully carried out and the animals had survived more than twenty-four hours, well-marked and severe diabetes was produced. If small pieces of the gland remained, however, no symptoms of diabetes are manifested.

According to our present conception of oral pathology, we may take this axiom for granted: There is no

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Toirac-Desirabode: Gazette des Hôpitaux, 1839.

2. Talbot: Interstitial Gingivitis.

3. Greve: "Caries Alveolaris Idiopathica." Oesterreich. ung. Vierteljahrsschrift f. Zahnheilkunde, 1904.

4. Arkoevy: Caries Alveolaris Specifica Fulminans. Stomatologiai Koziony, 1905.

pyorrhea alveolaris without micro-organism. The normal oral cavity is inhabited by a rich flora of bacteria, both pathogenic and non-pathogenic. The great resistancy of the very vascular tissues to injuries holds the bacteria at a rather low ebb of virulence. According to Fluegge, however, the slightest interference with this normal resistancy, for instance, a simple pharyngeal catarrh, affords a ready field of attack and the pathogenic germs become extremely virulent. No specific micro-organism has, so far, been isolated as the true causative factor of pyorrhea alveolaris, although Galippe claims to have found and isolated two organisms. Pyorrhea results from a mixed infection; as shown by Goadby, however, the true pus-producing organism, viz., the staphylococcus aureus and albus are found only in about 10 per cent. of all the bacilli present. As before stated, these micro-organisms must necessarily find a *locus minoris resistentiæ* in the tissues of the oral cavity before they can obtain a firm foothold.

It is a well-known fact that diabetes mellitus lessens the resistancy of all the tissues of the body; diabetic gangrene and a tendency to form carbuncles are ample illustrations of this. So-called dry sockets, viz., ill-healing wounds resulting from the extraction of teeth, are frequently traced to existing diabetes. According to Naunyn, the pronounced tendency to local infection in diabetics may be partly explained by the ever-present sugar in the tissues, thus furnishing rich food to certain forms of schizomycetes. This may help to explain why thrush is so frequently seen in the mouths of diabetics. The best authorities on diabetes mellitus, such men as Kuelz, von Noorden,[5] Frerichs, Bunge,[6] Naunyn, etc., agree that no sugar is found in the saliva; however, a distinct acid reaction is usually observed in the oral fluids. This very acidity, to a large extent, is responsible for the increased sensitiveness about the necks of the teeth, which is usually a forerunner of rapid decay about this region. The circular ligament becomes swelled and livid, it loses its hold on the tooth, and thus opens a ready gateway to the micro-organisms. The formation of pus pockets follows and concomitant destruction of the peridental membrane and necrosis of the alveolus results, with final loss of the tooth. The teeth of the upper arch usually are attacked in this manner prior to the lower teeth.

According to Arkoevy,[4] a distinct separation of the two upper centrals occurs which, as a pathognomic symptom, he has termed *diastema pathologicum*. The articulation of the arch is destroyed, and as a consequence of the force which is produced by the more firmer teeth of the mandible, in their curve of motion against those of the maxilla, the latter readily give and more or less prognatism results. The percussion fremitus of Landgraf,[7] which is observed by placing the finger over the end of the tooth root and tapping the tooth, forms a valuable diagnostic means of determining the progress of destruction of the alveolar plates.

The very rapid formation of calcareous deposits about the necks of the teeth in diabetics is another important diagnostic symptom. This "tartar" is usually of a light yellow color and rather soft to the touch. It is not confined to a group of teeth, but forms indiscriminately all over the crowns. The rapid formation may thus be partly explained: The saturation of the body with acids, according to Naunyn, calls forth an increased neutralization by the alkaline earths of the tissues which are largely held in solution by carbonic acid and poured out by the saliva. The CO_2 becomes liberated in the mouth and the precipitated lime salts are deposited about the teeth. The tongue of the diabetic is usually found thick, of a red color, and coated, showing the imprints of the teeth; the papillæ are enlarged. The mucous lining of the mouth shows a livid color resulting from the hyperacidity of the blood; the mouth is usually extremely dry. The typical odor arising from the breath of the diabetic is an important clinical symptom of the disease and is readily observed by the oral specialists. It is a peculiar chloroform-like odor, resembling somewhat sweet cider. This odor is due to the acetone compounds formed in the body. Of course, the most important diagnostic sign of diabetes is the presence of sugar in the urine.

A few therapeutic suggestions added to the summary of oral symptoms of diabetes mellitus may not be amiss. For general treatment the patient, of course, should be under close observation of the physician. The imbibing of large quantities of alkaline waters, such as Vichy, Carlsbad or Neuenahr, is recommended by the best authorities. Strict dieting is pre-eminent. von Noorden's "oatmeal cure" is much lauded by some clinicians. Very recently O. Conheim published encouraging results obtained by administering an extract of the pancreas; this report, however, is too early and too incomplete to be of practical value. The local therapy is the usual routine treatment, removal of all deposits, destruction of the pus pockets, fixation of the loose teeth, correction of malocclusion, and general prophylaxis. As long as the primary disease is present, however, comparatively little can be expected of the local treatment alone.

5. von Noorden: Autointoxication.
6. Bunge: Physiological and Pathological Chemistry.
7. Landgraf: "Kritische Betrachtungen über Pyorrhœa Alveolaris." Deut. Monat. f. Zahnheilkunde, 1903. "Die Initialsymptome der Alveolarpyorrhea." Ibid., 1905.

Special Article

IMMUNITY.

CHAPTER XXII.

TYPHOID.

Eberth first saw *Bacillus typhosus* in microscopic preparations of the mesenteric lymph glands and spleen of a typhoid corpse, in 1888. Koch also observed it at about the same time, and stained it in the intestinal wall, spleen, liver and kidney. It was obtained in pure culture by Gaffky in 1884.

The organism is rod-shaped, 0.5 to 0.8 by from 1 to 3 microns in dimensions, with nothing characteristic in its morphology. It possesses from ten to twelve flagellæ situated at the end and on the sides and is actively motile under suitable conditions. It forms no spores, is readily cultivated on many media, in which it sometimes forms long threads, and it is not stained by the method of Gram. The maximum growth occurs at the temperature of the body; growth is practically inhibited at from 9 to 15 degrees C.

Intestinal Groups of Bacilli.

The bacillus is one of the rather numerous "intestinal group" of organisms, certain members of which are similar in morphologic and cultural characteristics, and which can be differentiated only by means of special culture manipulations, by animal experiments, or by the agglutinating and bactericidal action of specific immune serum.[1] Several tests are often necessary for positive differenti-

1. Of this group the bacillus of dysentery, paratyphoid bacillus, *Bacillus enteritidis* of Gärtner, colon bacillus and *Bacillus alcaligenes*, in addition to the typhoid bacillus, are the most important because of their similar morphologic and cultural properties and the pathogenicity of certain of them.

ation. The typhoid bacillus is a feeble producer of acid and ferments none of the sugars with visible gas formation. The colon bacillus forms acid vigorously and ferments various sugars with the production of gas. The paratyphoid bacilli are very similar to that of typhoid but differ in that they ferment dextrose with the formation of gas. The dysentery bacillus from the culture standpoint is almost identical with the typhoid bacillus, showing only the rather uncertain difference of a terminal alkalinity in milk; even this is not distinctive, because typhoid bacilli are sometimes met which produce a similar reaction. The *Bacillus enteritidis* ferments dextrose with the production of gas. The *Bacillus alcaligenes* always produces an alkaline reaction in milk. These points are mentioned only to illustrate the principles of culture differentiation of organisms which are similar in many respects. Even those which are most similar in culture media can be distinguished by properly performed agglutination or bactericidal tests with the corresponding immune serums. Before bacteriologic technic was so well developed at it is to-day, the typhoid bacillus, doubtless, was confused with these organisms in many instances. It is in fact less than five years since the organism of paratyphoid fever was identified as distinct from that of typhoid, in consequence of which the recognition of a new disease was possible.

Habit of B. Typhosus.

So far as known, the typhoid bacillus does not flourish outside the body and its occurrence in nature is dependent on the distribution of the infected excretions of the diseased. Nevertheless, its resistance is considerable and it remains alive and virulent in water, earth, etc., for varying lengths of time according to the nature of its surroundings. It has been found to live for periods of from 2 to 4 weeks to 2 or 3 months in water, from 3 to 4 months in milk, from 3 to 5 months in surface earth, and from 11 to 16 months in sterilized earth; 100 days in ice, from 12 to 30 days in oysters, from 50 to 80 days when dried on clothing, for 3 months in typhoid feces, for 96 days in the dead body of an experiment animal. Its vitality may be retained for many months in a dried condition. When in water or moist earth which is heavily infected with saprophytic organisms, its life is shortened, and it is killed in a relatively short time in the presence of sunlight.

The organism has been cultivated from the earth and infected water, and from the feces, urine, blood, rose-spots and the various organs of typhoid patients. In many instances in which an epidemic has certainly been caused by an infected water supply attempts to cultivate the bacillus from the water have failed. The organisms may not have been included in the samples which were analyzed, or what is equally probable in certain instances, they have died out in the water by the time the disease was so widespread as to be considered epidemic.

Typhoid Epidemics.

Typhoid fever may become epidemic on a large scale in two ways: First, by water infection and second, by contact infection. When the epidemic has as its source infection of a common water supply there is something characteristic about the explosive-like suddenness with which dozens or even hundreds of individuals are stricken within a comparatively short period. This method of infection concerns large villages and cities, principally, the water for which is commonly taken from streams, small lakes or reservoirs. An ill-constructed out-house, or discharges thrown on the ground in the basin of the stream or reservoir are historic conditions which with the first rain or the melting of the snow have made possible the contamination of the water supply of a community. Miniature epidemics have been caused among groups of families which obtained their water in common from wells which chanced to become infected; in one instance typhoid stools had been thrown on the ground adjacent to the well.

There are authentic examples of limited transmission through milk which had been infected by the use of contaminated water in washing the cans, or by individuals in handling the milk. Fruit and vegetables may be infected by washing with contaminated water. It is strongly suspected that oysters infected from sewage have caused more or less extensive outbreaks of the disease.

An epidemic set in motion by infected drinking water or other means may be aggravated and generally prolonged by the occurrence of contact infections (indirect contact). The hands of the nurse, physician or attendant may become contaminated from contact with the stools, urine, soiled linen or skin of the patient, and the organisms, subsequently may be transferred to food, drinking water, or in other accidental ways may reach the mouth. Each new case is a fresh focus from which infection may be carried to others. The chances of milk and food infection become greater as the cases multiply. When the discharges are not disinfected or are improperly disposed of rather extensive soil or house infection may occur and the possibility of direct or indirect transmission by germ-laden dust becomes of importance. Dust infection from dried urine or feces may occur. Drop infection from urine, water, or the sputum of the patient is theoretically possible but would seem to be of minor significance. Flies may carry the organisms from open vaults or cesspools and deposit them on food or in drinking water. The importance of this has been appreciated in relation to epidemics in military camps. Typhoid bacilli have been cultivated from flies which were taken from the vicinity of infected material.

The Infection Atruni.

The micro-organisms gain access to the body through the lymphoid tissue of the intestinal tract (Peyer's patches and the solitary follicles). Rarely it is possible that other infection atria may be utilized. Primary infection of the lungs through inhalation of infected dust has frequently been mentioned as a possibility, but its occurrence is not definitely established. In this instance a typhoid bacillemia would precede intestinal infection or a condition of typhoid septicemia without intestinal lesions would stand as a possibility. It would seem essential for the occurrence of either of these conditions that some local lesion exist from which organisms could constantly be supplied to the blood. Neufeld doubts the ability of the organism to proliferate in the blood stream as in true septicemia because of the strong bactericidal power of the blood, and considers that infection takes place through the intestines even in cases of "typhoid without intestinal lesions."

Incubation and Variations in Virulence.

The incubation period is subject to considerable variations. In one instance in which 500 persons were exposed to infection from a well 13.5 per cent. developed the disease. Of these, 62 per cent. showed symptoms in from 20 to 25 days, 2 per cent in from 14 to 20 days, and 2 per cent. later than 30 days.

Typhoid bacilli cultivated from different cases vary greatly in their virulence. As previously stated, the pathogenic constituents of the organism reside in the bacterial protoplasm and are not excreted in soluble form. Toxic substances, it is true, may be obtained in solution by the autolytic digestion of cultures, extraction of ground-up organisms, or the cell juice may be obtained under high pressure, but it is currently believed that such preparations represent nothing more than the endotoxin which, through the disintegration of the cells, has gone into solution. Up to the present time, immunization with none of these preparations has resulted in the production of an antitoxic serum of accepted value. Certain French authors speak of a true soluble toxin.

Following the development of intestinal lesions the bacilli reach the circulation by way of the lymphatics, and through the action of the bacterial constituents of the blood (amboceptor-complement complex and possibly leucocytes) they are killed and dissolve in large quantities. It is now generally believed that only through the disintegration of the bacterial cells are their toxic constituents thrown into solution in the body, a condition which is necessary in order that the tissue be injured. Infection of the blood stream with living organisms, in the early stages of the disease and preceding relapses, occurs in such a large percentage of the cases that it has come to be recognized as more or less characteristic.

This promises to be an important point from the standpoint of early diagnosis, for they appear in the blood in ad-

vance of the formation of agglutinins; that is to say, the diagnosis may be established by culture methods before the agglutination reaction can be obtained. From 1 to 5 c.c. of blood are drawn from the median vein of the arm and planted into from 30 to 80 c.c. of suitable bouillon, which is then incubated for twenty-four hours and certain quantities of it plated out, or the bouillon culture may be used direct for the agglutination reaction with a known typhoid serum. Inasmuch as typhoid bacilli when freshly cultivated sometimes resist agglutination, it is necessary to supplant the agglutination reaction by the ordinary cultural tests. After from the tenth to the fourteenth day the organisms are commonly not to be cultivated from the blood; it is not improbable that the bactericidal substances of the blood have so increased by this time that the organisms are killed rapidly after reaching the circulation.

A Point in Diagnosis.

As stated previously, they are also found in the various organs, especially in the lymph glands, spleen and bone-marrow in fatal cases. In from one-fourth to one-third of the cases, in the third week, or during convalescence, the urine becomes more or less heavily infected with the bacilli. They may persist in the urine for many weeks after the subsidence of acute symptoms, with little to call the attention of the patient to the condition. Because of its frequent occurrence during convalescence, the process is not to be considered as one of excretion of the organisms from the circulation, but it seems more likely that they arise from metastatic foci in the kidneys—foci which were deposited perhaps at the time similar metastases occurred in the skin to cause the appearance of the rose spots. (Kanjajeff). More than 100,000,000 bacilli per c.c. may be present. The condition may be accompanied by cystitis, varying in degree from mild to severe.

Neufeld claims that the organisms exist in the tissue fluids of the rose spots, and that if they reached the skin in the first instance as metastases in the blood stream they soon become extravascular. They may be cultivated from the rose spots by inoculating media with scrapings from the surface; it is not necessary that the vessels be injured. The rose spot is due to the congestion of the vessels which surround the focus.

Localization of the Bacilli.

The cultivation of the bacilli from the spleen during life by the aspiration of blood from the organ by means of a syringe is not practiced because of the dangers involved.

The gall bladder is infected with considerable regularity during typhoid, and the organisms may proliferate in this situation for years. It has been suggested that reinfection may be caused by the passage of organisms from the gall bladder to the intestines. Typhoid bacilli have been found imbedded in the nuclei of gallstones.

Pneumonia, which develops as a complication of the disease, is commonly caused by other organisms, occasionally by mixed infection with the typhoid bacillus, and rarely by the latter alone. The organism has been found in the bronchial secretions. Serous or purulent pleuritis may be caused by the typhoid bacillus.

Bone lesions (necrosis, abcesses, periostitis), particularly in the lower extremities or in the vertebræ, occur frequently during convalescence, or rarely one or more years later. They may, but more commonly do not, suppurate. The "*Spondilitis typhosa*" of Quincke is thought to be accompanied by compression of the nerve roots by the serous infiltrate of the periosteum. It is thought that true myelitis may accompany, or follow typhoid, the cause being either toxic, or depending on a previous metastatic infection with the organism. Neuritis although the nervous system is characteristically the seat of is not uncommon. True typhoid meningitis is probably rare, intoxication. The typhoid bacillus is a facultative pyogenic organism and may cause abscesses without the aid of other organisms. In purulent lesions, however, mixed infection with the ordinary pyogenic organisms is commonly found.

From the above it would seem that the lesions which may develop during typhoid to a large extent are dependent on the distribution of the organisms, in contrast to the conditions in diphtheria and tetanus. Nevertheless, it appears that the lymphoid tissue and the central nervous system have a special affinity for the toxic constituents of the organisms. In the beginning, the intestinal infection is rather general, being characterized by diffuse hyperemia, a catarrhal condition of the surface and occasionally by minute hemorrhages into the mucous membrane. Very soon, however, their preference for the lymphoid tissue becomes manifest; that this preference depends on anatomic conditions is perhaps not definitely settled, but seems improbable. The vibrio of the cholera under similar conditions shows no such preference for the lymphoid patches.

(*To be continued.*)

Clinical Report

RECTO-UTERINE FISTULA.*

L. H. BERND, M.D.

PHILADELPHIA.

Patient.—Mrs. S., aged 33, married, housewife, was referred to me at the Italian Hospital, April 5, 1905, with the following history:

History.—Patient has given birth to eight children, three still living, five miscarriages; otherwise she never had any trouble. Her present trouble started five weeks ago, when she aborted a three months fetus. She was curetted by her family physician at that time.

Examination.—The woman is very pale and thin, complains of headache, backache, and a feeling of uneasiness in the lower part of the pelvis; also of a bloody fetid discharge. The perineum is lacerated through the external sphincter. She has a slight cystocele and a large rectocele. There was no visible discharge, the patient having taken a douche. A unilateral laceration of the cervix could be felt, and the uterus seemed slightly adherent to the rectum. The fundus was enlarged and soft; the tubes and ovaries were in good shape and not markedly tender. Through the speculum a peculiar blood-stained discharge was seen, which had a putrid odor. Temperature was 99, pulse 88.

Treatment.—The patient was prepared for operation in the usual way. As she was being put on the table the nurse informed me that the fluid from the enema came out through the vagina. Careful search, under ether, elicited no opening between the vagina and rectum. An enema of milk was then given. The milk came out through the cervix. A sound passed into the uterus came in contact with the finger in the rectum through a small opening about a half inch above the internal os. A very gentle curettage was done and the uterus was packed with iodoform gauze. The cervix and perineum were then repaired. The packing was left in forty-eight hours. The bowels were moved on the sixth day by an oil enema. The recovery was uneventful, and the patient menstruated on April 18.

Subsequent History.—June 15, 1905, the patient came in and seemed well, except for an adhesion of the uterus to the rectum. She believed herself pregnant, about two weeks.

Remarks.—The case is rather unique. Rectouterine fistulæ are not mentioned in several of the text-books on gynecology. Guilliam mentions the possibility of such cases.

Carcinoma sometimes causes these fistulæ, also tuberculosis. In this case it was probably due to trauma, and, as the fistula was so low, the danger of infecting the peritoneum was greatly decreased. It is possible that the uterus was adherent from a syphilitic condition and that the curette had slipped through at that point when she was curetted by the family physician. My idea of syphilis in this case is due to her history and the syphilitic condition of one of her children. The husband also has rather a suspicious-looking nose, while he denies most emphatically any disease of that kind. It would be interesting to know the further history of this patient and whether or not the pregnancy continued to term, but she has left Philadelphia and I am unable to secure further data.

* Reported to Philadelphia County Medical Society, 1905.

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INTRACELLULAR FERMENTS AS CATALYZERS.

A new insight has been gained through research in physiologic chemistry in the conception of the catalytic nature of intracellular ferments. By a contact substance chemists understand a substance which, by virtue of its presence (and without itself, or in the form of derivatives, appearing in the end-products of reactions), either initiates chemical reactions which otherwise would not occur (chemical "inoculation" or "infection") or accelerates or retards the speed of spontaneous reactions (catalysis). Thus in inorganic chemistry, as everyone remembers, the mixture of manganese dioxid with potassium chlorate accelerates the rate of oxygen liberation and the presence of platinum quickens the burning of hydrogen gas in oxygen at relatively low temperatures. In organic chemistry, ferrous sulphate, by its presence, hastens the oxidation of glycerin by hydrogen peroxid. These are samples of catalysis. It seems probable that for every chemical reaction substances exist which alter its speed. The search for these catalyzers offers a most inviting field for study.

The exact chemical constitution of the intracellular ferments is not known, but this does not hinder the investigation of their catalytic effect. Indeed, in pure chemistry an exact knowledge of the chemical nature of a catalyzer has rarely thrown any light on the character of a catalytic reaction. That such knowledge may be of great importance later is conceivable, but it need not make us pessimistic because we are now ignorant in this particular respect, and see no likelihood of enlightenment soon; there is enough to do at present in studying the relations of catalytic agents of unknown structure to the reactions they influence.

Physiologic chemists are now busy isolating the intracellular ferments from the cells of various organs. One organ may contain many different ferments; the liver, for example, contains more than a dozen of these substances. On the other hand, the same ferment may be present in many different organs, the same oxidizing ferments (aldehydase, for instance,) have been demonstrated in the lymph glands, spleen, thymus, lungs, brain, adrenals, testicles and kidneys.

The isolation of the ferments is by no means easy. Histologic methods are of no avail for the purpose; it is rather the method of the pharmaceutical chemist which has to be resorted to. Just as the latter, seeking the active principle of a vegetable drug, prepares various "fractions" by precipitation, extraction, etc., and tests each fraction to find out in which the active principle is to be found, so the ferment chemist goes to work with an animal organ which is known to be capable of carrying on a definite chemical operation. Most ferments can be obtained from minced organs by extraction with water, in which they form suspensions or colloidal solutions rather than true solutions. To these aqueous suspensions various precipitating agents are added. One ferment goes down with one kind of precipitate, another with another. No general rule can be predicated for the isolation; the ferment chemist has to try a whole series of reagents until he strikes the right one. After isolating the ferment, its quantitative activity has to be determined, and here the methods of physical chemistry have to be employed. This is why the investigator of ferment activity needs to be familiar with chemical mechanics, chemical statics and chemical kinetics—in other words, with the laws governing the phenomena of equilibrium and the velocity of reactions, and with thermodynamics. The effects of temperature, of poisons, etc., on the ferment follows on the simple study of reaction velocity.

The studies of the ferment chemist promise to be of the greatest significance for physiology and pathology. The whole field of internal assimilation comes within their scope, as do the problems of intermediary metabolism. Moreover, for the pathology of the so-called constitutional diseases and perhaps also for the solution of the problems of immunity, the chemistry of ferments and the study of catalytic reactions hold out great hope. Though the details of the methods are too complex to be grasped, perhaps, by the rank and file of medical men, physicians can not fail to be interested in gaining an intelligent understanding of the main points at issue; they will follow the results of research workers competent to investigate these problems with sympathy and expectation.

THE CAUSE OF WHOOPING COUGH.

The practical application by Widal of the principle that in bacterial diseases substances form in the blood which will agglutinate the bacteria causing the disease has led to important additions to the methods of bacterial diagnosis, and has rendered more certain, in some instances, the association of a given bacterium with a given disease. Notwithstanding the large number of diseases now held to be of bacterial origin, the number in which absolute proof of the relation of a given organism to a given disease has been brought forward is relatively small. If we accept Koch's postulates as a standard, and this is generally done by bacteriologists, there are many diseases now held to be bacterial in which absolute proof of this contention is lacking, and this is particularly the case in human diseases not transmissible to animals. It is just such diseases that the agglutination test is of the greatest value.

Among the diseases long considered bacterial, but never definitely proved to be so is whooping cough. For nearly twenty years various observers have described various bacteria in this condition, and since 1897, when Czeplewski and Hensel, and, independently, Koplik, described small-poled bacilli in the sputum, there has been a very close resemblance among the various organisms described. This latter fact made it appear more probable that the real causal agent had been found than if bacteria differing widely in their characteristics had been observed. Most of the observers, even in recent years, have failed to test the agglutinating power of the patient's blood on the organism which they considered the cause of the disease, and this fault has recently been remedied by Wollstein,[1] who has carefully investigated thirty cases. The studies of Wollstein show that if proper precautions in collecting and washing the sputum are taken the same organism can be isolated from practically all developed cases of whooping cough during the first seven or eight weeks of the disease. Before the whoop appears it may be impossible to isolate the bacteria, but after the diagnosis is no longer in doubt the isolation is not attended with great difficulty. The organism which Dr. Wollstein describes tallies very closely with those observed in recent years by the authors previously mentioned, and various slight discrepancies, hitherto puzzling, are doubtless due to improper technic, to the fact that the organism can only be cultivated on hemoglobin containing media, and to the occasional occurrence of similar organisms in healthy individuals. The pertussis bacillus resembles quite closely the influenza bacillus, though somewhat larger. It shows the same cultural peculiarities, and in agglutination tests there is evidence that the two organisms, while different, belong to the same group.

The association of one organism with whooping cough suggests, of course, the possibility that a serum treatment may be available; in fact, such a treatment has been described. As long ago as 1902 Leuriaux[2] gave an account of the successful treatment of sixty-six patients by an antitoxic serum. In view of the fact that the agglutinating power of the blood of various animals can be increased by inoculation with the pertussis bacillus, a serum therapy would seem to be one of the possibilities of the future.

THE PROTEOLYTIC INTRACELLULAR FERMENTS AND AUTOLYSIS.

It has been known for the last 15 years that animal tissues possess the power to break up the albumin molecule, independently of the action of the pepsin in the gastric juice and of the trypsin of the pancreatic juice. Salkowski, in 1890, proved that certain ferments in the liver and in the muscles, substances which could be extracted with water, are able to split up albumins with formation among other substances, of the two amino-acids—leucin and tyrosin. Salkowski spoke of the process as autodigestion, but the name autolysis, later proposed by Jacoby, is that which has been generally accepted. The latter author has been able to isolate the autolytic ferment by means of fractional outsalting. It has since been shown to exist in a whole series of organs, including the spleen, lymph glands, kidneys, lungs, stomach and thymus.

In order to demonstrate autolysis, the organ need not be washed; if the whole liver, or a portion of it, be removed from the body, under aseptic precautions, and so kept in the thermostat, intense autolysis results. This makes it seem probable that the autolytic ferment exists and is active during life within certain limits. Just what part these proteolytic catalytic agents exercise in intermediary metabolism, however, is not yet known. Proteolytic ferments have also been demonstrated in placental autolysis (Matthes) and in carcinoma tissue (Petry). They are increased in the liver in phosphorus poisoning (Jacoby) and may be responsible for the proteolysis of that organ which gives rise to the appearance of leucin, tyrosin, glycocoll, and phenylalamin, which are now known to be excreted in the urine during phosphorus intoxication. Interesting to clinical men is the fact that the pneumonic exudate, during the stage of resolution, is dissolved up gradually, owing to the action of a proteolytic ferment, resident within the cells themselves. Obviously, therefore, autolysis plays an important rôle in the cure of pneumonia (Müller and Simon). When pus breaks down in abscesses, the disintegration is due there also to an autolytic ferment (achalme).

The proteolysis carried on by these autolytic ferments is a hydrolytic cleavage. The chains of amino-acids of which the albumin molecules are built are split asunder owing to the addition of the constituents of water, a hydrogen atom going to one amino-acid molecule and hydroxyl going to the molecule next adjacent. This mode of digestion resembles what happens when proteids are split by pepsin and trypsin. The processes are not identical, however, whether or not the same ferments which split the albumin molecule into amino-acids can also, under other conditions, synthesize amino-acids into albumin, i. e., whether or not the reaction is reversible, as appears to be the case with lipose, the fat-splitting and fat synthesizing ferment, has not yet been ascertained.

1. Jour. of Exper. Med., vol. III, No. 4.
2. La Semaine Médicale, July 16, 1902.

PASSING OF PATHOGNOMONIC SYMPTOMS.

It seems very probable that the feature of the session of the American Medical Association at Portland, for which it will go down into history will be its clearing of the field of medical thought of a good deal of its trust in so-called pathognomonic symptoms. While it has been recognized for many years that the whole clinical picture is much more important than the recognition of any one symptom, however serious or appar-

ently significant, the discussions on heart affections, on nephritis and on stomach diseases at the recent session emphasized the necessity for the clinical investigation of all sides of the pathologic condition present, rather than of any single symptom or even set of symptoms. This is the position that has always been recognized by conservative clinicians as most helpful in every generation. It constitutes the reason why practitioners of wide experience have frequently re-echoed the old saw: "It is more important to know what sort of a patient has the disease than what sort of a disease the patient has."

In the discussion on heart disease, the old custom of attributing most cases of cardiac disease to rheumatism and of considering this as a sufficient explanation was called in question in order to insist again on the necessity for studying the various types of so-called acute rheumatism that may be present, especially from the standpoint of the pathologist. The declaration was made that not a few of the affections of the heart valves ordinarily attributed to rheumatism resemble those produced by septic conditions, much more closely than has been imagined. Renewed attention was called to the fact that gonorrheal rheumatism occurs much more frequently than was formerly thought, and that heart complications of this affection are not at all rare. From the standpoint of the clinician, it was emphasized that the surest sign of an affection being simple articular rheumatism is the fact that it leaves no mark in the joints and that as the joint tissues, in certain ways, are the analogues of the heart valves, it would be rather surprising if simple rheumatism produced as many heart complications as has been supposed. When the mark is left on the joints, usually some secondary affection has existed and it is to this that the persistent pathologic sequelæ are to be attributed. To a considerable extent, this same thing would seem to be true of heart affection. The necessity for careful investigation of each individual case so as to determine that no secondary infection has taken place will be the true criterion of progress in our knowledge of rheumatic affections and their complications.

With regard to nephritis, it was shown that the presence of both albumin and casts is not sufficient of itself to make the diagnosis of Bright's disease. Indeed, it is when the kidneys are healthiest, as, for instance, in the athlete—the long distance runner, or the oarsman—that casts are most abundant, if somehow sufficient irritation of the organ be set up in order to produce this reaction. On the other hand, it is when degenerative processes are early and active that albumin is likely to be most abundant. The real diagnosis of Bright's disease can not be made until after the changes in heart and arteries which constitute the danger signals of the affection can be recognized. Albumin and casts, either or both, may be present, under exceptional circumstances, for many years without the prognosis of the case necessarily being unfavorable. It is the whole condition of the individual that must constitute the basis of any proper estimation of the significance of the various symptoms in his particular case.

With regard to gastric diagnosis, practically the same conclusions were suggested as with regard to urinary examinations. A single examination in either case, no matter what its apparent significance, should not be allowed to be the main element in the appreciation of the patient's condition. Variations in gastric chemistry are especially likely to be illusory unless all the clinical symptoms of the case are carefully investigated. In general, supposed pathognomonic symptoms of stomach disturbance were stripped of their conclusive significance and shown to be only aids to diagnosis, some of them not of very great value. Only a careful study of all the pathologic conditions present, even of those quite apart from the stomach itself, serves to show what is the real basis for the symptoms present and what indications for treatment are afforded.

No better lesson could well have been impressed on the general practitioners of this country than this precious one of considering all sides of the clinical problem before coming to diagnostic conclusions. Snap diagnoses may seem very brilliant, but, in most cases, they are almost sure to be wrong, and even under the most favorable circumstances they only too frequently call exaggerated attention to some special feature of the case, and thus preclude proper consideration of complicating circumstances that may be of even more importance for the matter of treatment than the basic conditions so readily recognized. If the Portland session shall have driven home even to some slight degree this invaluable precept of studying each individual patient for himself rather than seeking to find the supposed pathognomonic symptom of his affection, then its effects will be far reaching, even beyond expectation.

THE YELLOW FEVER EPIDEMIC.

During the past week the fever has not spread so rapidly. Up to August 8 the total cases numbered 565 and the deaths 113, a mortality of just 20 per cent. Some new foci have been found in Louisiana outside New Orleans, and there seems to have been some concealment of cases. As appeared probable last week, the business men, acting with the local and state authorities, united in asking the President to direct the United States Public Health and Marine Hospital Service to assume full control of the efforts to check the epidemic. The commercial interests of New Orleans readily agreed to contribute the fund needed by the service in order to accomplish the heavy task assigned to it. In New Orleans and Louisiana splendid harmony of medical efforts continues, and the physicians of the rest of the country may well be proud of their fellows in the stricken city. The local profession and health authorities promise full and active co-operation with the fed-

eral service, of which Surgeon White is locally in chief command.

Already it is possible for us to speak with the greatest pride of the conduct of the citizens of New Orleans. Never has a community more readily or more generally accepted the advice of scientific physicians. With startling and admirable confidence in the newest teachings of scientific medicine with regard to the causation and mode of propagation of yellow fever, New Orleans has furnished the money and the volunteers necessary to carry on rational methods of exterminating an epidemic. New Orleans certainly has earned the respect of the world. Unfortunately there is a background to afford a contrast, for it could be wished that the same praise had been deserved by the neighboring communities. The profession must blush at the medieval quarantines that in some quarters have been raised against the afflicted city. Medical science yet knocks in vain at some doors, and "man's inhumanity to man" stands black on the pages of our newspapers. Even has it been so bad that medical members of local boards of health have resigned in futile protest against the adoption of brutal and irrational methods. From Mississippi comes tales of physicians forced to deny their diagnosis of fever; and the city council of Gulfport, Miss., as an emergency measure, passed an ordinance subjecting to a fine any physician whose report of a yellow fever case is incorrect. From such an environment the civilization of New Orleans shines out brightly, and we fully believe that in the next few weeks she is destined to give the country a salutary lesson of the success of civilized and scientific methods for exterminating epidemic disease.

THE BRITISH MEDICAL ASSOCIATION TO MEET IN CANADA.

At its recent meeting at Leicester, the British Medical Association accepted an invitation extended by the profession of Toronto to meet in that city in 1906. This will make the second time that the British Medical Association has met on this side of the Atlantic, the previous meeting being held in Montreal in 1897. We congratulate our Canadian brethren on having again succeeded in getting the Association to meet with them, and hope that the coming meeting will prove to be even a greater success than the one held in 1897. Toronto is very close to that imaginary line that separates the United States from Canada—a political and not a scientific line—and we have no doubt the great majority of our English brethren will step across this line and shake hands with us. All who do will certainly be welcome.

SUICIDE STATISTICS.

In *The Spectator* for July 27, 1905, Frederick L. Hoffman, the statistician, writes on "The Suicide Record of 1904." He bases his analysis on official returns from 50 American cities reporting 2,927 suicides in 1904. The rate per 100,000 of population is 19.5, which is the highest since 1890, when this annual tabulation was begun and when the rate was 12.0 per 100,000. The increase has been constant, and Hoffman describes it as one of the most dangerous tendencies in modern American life. The detailed results are mystifying, especially as to geographic distribution. San Francisco holds the "bad eminence" of leader in this race, the rate per 100,000 having been 23.7 in 1890, 49.9 in 1900, and 72.6 in 1904. On the other hand, Chicago in 1904 had a fall in mortality from this cause—20.6, as compared with 23.4, the average of the previous decade. Boston and Brooklyn also show a decrease, while Oakland, Hoboken, St. Louis, Indianapolis, Cincinnati, Orange and Pittsburg show very considerable increases. In New York, Milwaukee, New Orleans, Rochester and Buffalo the rate was stationary or showed only slight increase. Neither size nor climate will consistently explain such discordant facts. In the smaller cities some of the larger jumps in 1904 are probably accidental, and will very likely be compensated for in succeeding years. Hoffman thinks the increasing Jewish element in the population of New York accounts for the absence of an increase in the largest center of population. Despite fluctuations and offsetting conditions, it can not be denied that the figures show a gain in the suicide mortality. Abroad, Paris shows a marked fall in the suicide rate for the decade (in 1894, 42.5; in 1903, 26.7). Berlin holds second place among the world's great cities with a rate that varies little from 27.5 per 100,000, while London maintains a low rate—10.8—with only a slight increasing tendency. Hoffman thinks "we may anticipate a still further increase in the suicide rate of American cities in the near future." Perhaps he is correct in this evil forecast, but the premises for such a conclusion do not appear certain. At least, it may be noted, the figures from Paris show that it is possible for the suicide rate in a large city to reach a maximum point from which for some years there is a steady decline. In the light of so many vigorous efforts as are now in progress to improve the conditions of urban life, let us hope that the near future will witness, at least in some of our American cities, a fall in the suicide rate comparable to that still proceeding in Paris.

IDIOPATHIC RECURRING THROMBOPHLEBITIS

Thrombophlebitis is most commonly due to infective agencies, but cases have been observed in which the condition is attributable to the gouty or arthritic diathesis. In the latter circumstances, the occlusion of the vessel has exhibited a recurring tendency, successive portions of the vein being, in turn, involved in an ascending manner. The lower extremities are generally affected and there is little local and no general reaction. In another group of cases, the lesion develops in the absence of a recognizable etiologic factor, and the tendency has been to consider these cases, also, of gouty or arthritic origin. From this view Dr. John B. Briggs[1] is inclined to dissent, and he reports three cases, together with four from the literature, in which recurring thrombophlebitis occurred without obvious cause. In his opinion, the condition is to be attributed to phlebosclerosis, with the development of parietal thrombosis. In the way of treatment he recommends high ligation of the vein, with the object of eliminating the danger of embolic complication and avoiding protracted rest-treatment.

1. Bull. Johns Hopkins Hospital, June, 1905, p. 207.

Medical News

ILLINOIS.

Measles in Evanston.—Evanston is suffering from an epidemic of measles, of which 200 cases have been reported. The Evanston branch of the Chicago Medical Society has appointed a committee consisting of Drs. Sarah H. Brayton, Henry B. Hemenway and Stephen V. Balderston, to assist the local health department.

Farmers Doped and Duped.—It is reported that about 20 farmers in Lake County have been swindled by an alleged physician, who agreed to cure them of supposedly incurable diseases, and accepted in payment for his services notes payable one year from date. Medicine which was sent could not be taken and in due course the notes were presented for payment.

Personal.—Dr. Theodore A. Johnson, Xenia, has been reappointed sanitary physician of the city.——Dr. John S. Kennelley, Easton, was thrown from his buggy July 27 and fractured his left leg.——Dr. Robert J. Midgley, Wilmington, has started for Europe.——Dr. Richard E. Shurtz, Champaign, assistant surgeon, Ill. N. G., assigned Fourth Infantry, has resigned.

Holds License Law Not Retroactive.—The Appellate Court on August 6 affirmed the decision of the Kankakee County Circuit Court in the case against Dr. P. R. Langdon of practicing medicine without a license, deciding in his favor. State's Attorney Miller declares that the state will take the case up to the Supreme Court. Dr. Langdon declares that he was practicing in this state before the act was passed, in 1899, and therefore was not amenable. The case hinged around the word "begin." The act reads that physicians can not "begin" practicing medicine without first obtaining a license. The Appellate Court holds that the law does not apply to doctors who practiced before the act became a law, and the decision was accordingly handed down in favor of the defendant.

Chicago.

Deaths of the Week.—For the week ended August 5 the mortality was equivalent to an annual rate of 14.85 per 1,000, which contrasts unfavorably with 13.57, the rate for the previous week, and 12.78, the rate for the corresponding week of 1904. Of the 567 deaths, 170 were of infants under one year; 47 of children between one year and five years of age, and 91 were of individuals over 60. Acute intestinal diseases caused 129 deaths; consumption, 71; violence, 42; nephritis and heart diseases, each 38; cancer, 33, and pneumonia, 30.

Personal.—Dr. Wilfred H. Manwaring of Johns Hopkins Medical School, at present fellow of the Rockefeller Institute for Medical Research and assistant in pathology in the University of Chicago, has been appointed head of the new department of pathology and bacteriology in Indiana University, with the rank of associate professor.—Dr. Joseph P. Smyth has been re-elected high medical examiner of the Catholic Order of Foresters.——Dr. C. Hubert Lovewell has been appointed to supervise the inspection of passengers from the infected districts in the South at Cairo.

July Heat Increases Mortality.—July, 1905, failed to make good the promise of the early part of the month to establish a new record of low July mortality. The excessively hot weather from July 16 to 19 inclusive was responsible for an increase of nearly one-half over the mortality rate of the first fifteen days, which was only 11.04, while the rate for the week ended July 22 rose to 16.42 per 1,000. Of the 2,280 deaths 595 were of infants under one year; 211 of children from one year to five years of age, and 343 of aged persons over 60. Acute intestinal diseases caused 424 deaths; consumption, 279; violence, 189; nephritis, 157; heart diseases, 196; cancer, 111, and pneumonia, 126. The mortality for the month was equivalent to an annual rate of 13.48 per 1,000.

KANSAS.

Must Fumigate Schoolhouses.—The State Board of Health has issued an order that every schoolhouse in the state must be fumigated before the opening of the school term in September.

Health Board Elects.—At its annual meeting, June 27, the State Board of Health elected Dr. Joseph B. Carver, Fort Scott, president, and Dr. B. J. Alexander, Hiawatha, vice-president. The secretary, Dr. S. Jay Crumbine, Dodge City, holds over.

Now Has Bulletin.—Volume 1, number 1, of the *Bulletin of the Kansas State Board of Health*, appeared July 1. It is a neat eight-page periodical, and the initial number discusses health; gives the vital statistics for June, and prints an article on "The Disgrace of Typhoid."

State Medical Department Preparations.—A building in Kansas City has been leased for the medical department of the State University and lectures will begin September 6.——Two dispensaries have already been established.——The university has secured the use of St. Joseph's, Bethany, the German and St. Margaret's hospitals for clinical teachings for its students.

New Hospitals.—Larned is to have a new fifteen-room hospital.——The corner-stone of the new Allen County Hospital at Gas City was laid July 4.——The Mennonites are building a new hospital at Newton.——The contract for the erection of the Eleanor Taylor Bell Memorial Hospital Medical Pavilion at Rosedale was let August 1. The building will cost $15,000.——St. Mary's Hospital, Emporia, will build a portion of the structure, which will cost $15,000.

Personal.—Dr. Willard F. Jarrett, Fort Scott, has been appointed a member of the faculty of the medical department of the State University, Rosedale.——The governor has reappointed Drs. Earnest P. Mills, Olathe; Alexander B. Scott, Jetmore, and Jonathan B. Carlile, Leon, members of the State Board of Health.——Dr. Clarence C. Goddard, Leavenworth, has been appointed to the chair of nervous and mental diseases in the State University.——Dr. Frank Eckdall has been appointed local surgeon for the Santa Fe System in Emporia.——Dr. Charles H. Lerrigo has been appointed a member of the State Board of Health, vice Dr. Charles Lowry, deceased.——Dr. Charles S. Newlon, superintendent of the School for Feeble-Minded Youth, Winfield, has been deposed by the State Board of Control, and has been succeeded by W. C. Van Nuys, at present assistant superintendent of the Topeka State Hospital.

MARYLAND.

Personal.—Dr. William S. Welch was elected health officer of Annapolis, July 31.

Smallpox.—Two cases of smallpox are reported in Calvert County, which it is believed originated from Washington.

Hospital for Hagerstown.—The success of the project to establish a hospital at Hagerstown has been assured by the donation of six building lots, valued at $15,000 and a check for $5,000 from a gentleman of Williamsport. A fine property on Potomac Avenue has been secured for the site.

Half a Century in Service.—Dr. Joshua W. Hering, Westminster, celebrates this year the semi-centennial of his professional career. During this period he not only was an active practitioner, but served his state as senator, and as comptroller of the state treasury. He is president of the board of trustees of the Western Medical College, and received the degree of LL.D. from St. John's College in 1900.

Baltimore.

Bequests.—The Home for Incurables has received a bequest of $1,500 and the Church Home and Infirmary one of $1,000 recently.

Personal.—Dr. John C. Hemmeter is at Bedford Springs, Pa.——Dr. Leonard Turlington is at Fair Oaks, Va.——Dr. Isham R. Page is at Northport, Maine.——Dr. Harry E. Peterman is at Grant, Pa.——Dr. Arminius C. Pole is at Chautauqua, N. Y.——Dr. F. Randolph Winslow is in Alaska.——Dr. Eugene Lee Crutchfield underwent successfully an operation for appendicitis at St. Joseph's Hospital, July 31.——Dr. Dudley Williams has returned from Europe.——Dr. E. Jones Williams has been appointed health warden of the First ward, vice Dr. Jesse W. Williams, his son, deceased.

Would Equalize Qualifications.—Dr. David Street, dean of the Baltimore Medical College, calls attention to the need of high schools throughout the state that the youths of the country may enjoy advantages of education equal to those in the city. He demands that the legislature take action on this important matter, which has a practical interest at this time to the medical colleges, in view of the requirement of the Association of American Medical Colleges that, commencing with next session, all matriculants shall have had a four-year high school course. He calculates that the Baltimore schools will lose half their students by the enforcement of this requirement.

NEW JERSEY.

Hospital Open.—The first ward in the Italian Hospital, a Roman Catholic institition in Orange, is now open. The hospital is to be called the Hospital of the Immaculate Concep-

tion, and the ward just opened is known as St. Anthony's ward.

Personal.—Dr. Orange H. Adams, Vineland, was taken seriously ill August 1 with congestion of the spine.—Dr. Frank Neal Robinson, a member of the Camden City Council, was the guest of honor at a dinner August 6.——Drs. William Q. Clark and Nelson B. Oliphant, Trenton, are in Vienna.

NEW YORK.

Personal.—Dr. Willis E. Merriman, Jr., Albany, has been appointed resident physician at the Seton Hospital.——Dr. Frank E. White, senior house physician at Ellis Hospital, Schenectady, has resigned and will practice in the city.

Enforce Ordinance.—In accordance with the edict prohibiting holding of assemblages in Syracuse during the scarlet fever epidemic, the health inspector on July 31 dispersed a crowd of about 700 that had gathered to witness a tent vaudeville show.

To Prosecute Quacks.—The Schuyler County Medical Society recently adopted the following preamble and resolution:

WHEREAS, Schuyler County, and especially the village of Watkins, have become territory infested by quacks and fakers, who are constantly violating the laws of the state by prescribing and practicing illegally, and who, by their wholesale advertising, are robbing the unsuspicious, and who, by their superlative brassiness, ignorance and deception are endeavoring to put legal and respectable practitioners in contempt: therefore be it

Resolved, That the president of this society appoint two members to act with himself, thereby constituting a committee to be known as the legislative committee, and that they be and hereby are instructed and empowered to prosecute all persons in Schuyler County who violate the laws of the state relative to the practice of medicine and surgery; and it is further resolved that all expenses incurred by said committee shall be paid by the Schuyler County Medical Society.

New York City.

Bogus Doctor Sentenced.—Alfred Meyer has been sentenced to eleven months' imprisonment and a fine of $500, or to serve in prison one day for each dollar not paid for posing as a physician and swindling poor people.

Work for the Winter.—The New York Academy of Medicine has sent a communication to the members requesting that titles of papers to be read during the coming winter be sent to the secretary as soon as possible. It is requested that communications be condensed so that they can be presented in from eight to twelve minutes.

Contagious Diseases.—There were reported to the Sanitary Bureau for the week ended July 29, 342 cases of tuberculosis, with 141 deaths; 274 cases of measles, with 13 deaths; 166 cases of diphtheria, with 13 deaths; 141 cases of typhoid fever, with 18 deaths; 54 cases of scarlet fever, with 4 deaths; 21 cases of cerebrospinal meningitis, with 10 deaths, and 14 cases of varicella.

Death Rate Still High.—The death rate for the week ending July 29 was 20.68 per 1,000, which is more than seven points lower than that of the preceding week. There were 455 deaths, 204 less than the preceding week, and of these 27 were directly due to the heat. The deaths from cerebrospinal meningitis during the week numbered only 10, the lowest number for nearly a year.

The Staten Island Mosquito War.—Dr. Doty expresses himself as very much encouraged by the way in which the people of Staten Island have taken up the mosquito crusade. The appropriation of $17,000 asked for the purpose of draining swamp lands has been granted. Twenty thousand circulars have been sent out explaining the methods of getting rid of mosquitoes and of preventing their incubation.

Fear Typhoid Epidemic.—An increase in the number of typhoid fever cases at Coney Island is causing some apprehension. At least 15 new cases have been reported within the last three weeks. There are at present 8 cases of typhoid at the Coney Island Reception Hospital Dispensary and several cases have been transferred to the Kings County Hospital. The outbreak is attributed to polluted water, improper sewage or impure milk. Coney Island is supplied by the same water mains as supply Bath Beach, where typhoid has assumed unusual proportions since June 1.

City Hospital Plans.—Drawings of the plans for the improvements on North Brother Island have been received by the Board of Health which include an increased acreage of more than one-third. The plans include seven new pavilions, five additional isolation ward buildings, two chapels, a large home for nurses and a large storehouse. These improvements, including enlarging the island, will cost $1,500,000. When these plans are carried out the total capacity of the island will be more than 1,000 patients and the plant will be the most complete in the country. Permission has been obtained from the government to make the proposed fill-in.

The American Medical Special.—This excursion train, which left New York on June 24 and arrived there on August 3, after a tour of the West, is said to be the only excursion train in the history of railroading in this country which has made such a lengthy trip and reached home intact without accidents of any kind. The physicians from Greater New York on this train were Dr. and Mrs. Dexter Ashley, Dr. William Francis Campbell, Dr. John W. Parrish, Dr. and Mrs. L. Grant Baldwin, Dr. Thomas F. Reiley, Dr. E. Franklin Smith, Dr. J. Riddle Goffe, Dr. and Mrs. E. F. Hurd, Dr. and Mrs. John T. Nagle, Mrs. J. E. Houghton and Dr. Frederick Holme Wiggin.

Buffalo.

Fumigating School Books.—Work is now in progress of fumigating all the text books used in the public schools of Buffalo.

Personal.—Dr. Frank W. Hinkle has sailed for England.——Dr. Ludwig Schroeter is in the Thousand Islands.——Dr. Marshall Clinton has returned from a trip up the lakes.——Dr. Dewitt C. Greene has returned from a European trip.

Health Department Evicts.—The Health Department has caused many tenants in tenement houses to vacate for violation of the tenement house ordinances. About fifty families, or more than 200 persons, have been compelled to vacate.

German Hospital Staff.—The medical staff of the German Hospital has elected the following officers: President, Dr. Charles H. W. Auel; vice-president, Dr. Marcello Hartwig; secretary, Dr. Frederick Zingheim, and treasurer, Dr. John G. Meidenbauer. Drs. Wilhelm Gaertner and John V. Woodruff have been elected members of the staff.

The University.—The regular term of the medical department of the University of Buffalo will begin September 2. The following graduates of the class of 1904 have received hospital appointments: Buffalo General Hospital—Drs. Herman D. Andrews, Harry E. Brauer, Stephen M. Hill, Discum C. McKenney, Victor A. Pschellas and William J. Sullivan. Erie County Hospital—Drs. William H. Prudden, Arthur C. Schafer, Joseph A. Peaslee, Carl M. Fiero, Abraham Lande, George B. Jackson, Charles W. Bethune and Norton H. Good. Sisters of Charity Hospital—Drs. John M. Flannery, Eugene R. Luiklaten, George A. Bicker and Edwin Carlton Foster. German Hospital—Dr. Jacob Schwitzer.

Osteopathic Diploma Seller Arrested.—"Dr." John W. Banning, president of the Atlantic School of Osteopathy, has been arrested on the charge of issuing diplomas from the Atlantic School of Osteopathy, situated in Buffalo, without license from the State Board of Regents. This school has been in existence for a number of years and is said to have issued many diplomas. Coincident with the arrest of "Dr." Banning comes the announcement that Fred Williams is suing the school for $10,000 for alleged malpractice. Williams, it is alleged, went to the school last March for osteopathic treatment, being told his hip would be strengthened. Following the treatments an abscess developed which compelled Williams to be confined to bed and only now he can get about with crutches.

PENNSYLVANIA.

Personal.—Dr. Milton C. Dunnick, Stewartstown, has located at Newmarket, Md.

Typhoid Decimates Village.—It is reported that one-tenth of the population of Dundaff, Susquehanna County, is ill with typhoid fever, due to the use of water from contaminated wells.

Change of Staff.—On August 1 Dr. Thomas F. Nason assumed charge of the surgical ward of the McKeesport Hospital, and Drs. F. W. Rudolph, Allegheny; J. B. Fealy, New Philadelphia; W. C. Hiesey, Philadelphia, and George L. Howder, Elizabeth, took their places as house staff of the institution.

Want Record Cleansed.—The Medical Association of Monessen has begun civil proceedings in the courts to show cause why the registration of Samuel, otherwise known as Edward S. and Edward Barnes, should not be stricken from the records. He registered under the act of 1881 and recorded seventeen years of continuous practice from 1871 to 1888, as follows: Sandy Lake, four years; Jackson Township, five years; Sheakleyville, three years, and Stoneboro, five years, all in Mercer County. His registration was a few months previous to his conviction of arson and sentence to imprisonment in the Western penitentiary for nine years. It is the purpose of the association to show that this individual never practiced

at these places, that he is a bad character and should be prosecuted to the limit. The physicians of Monessen invite all physicians who know of this man and who can give any evidence or the names of persons who could do so, to communicate with their attorney, A. M. Weyant, at Greensburg, or with the president of the association, Dr. Arthur R. Wilson, Monessen.

Philadelphia.

Personal.—Dr. and Mrs. Howard F. Hansell have gone to Lake Rosseau, Canada.——Dr. Alfred C. Whelen is spending part of August in Canada.——Dr. and Mrs. Thomas J. Orbison sailed for Europe on July 21.——Dr. O. Clayman Campbell sailed for Europe on the *Westernland*, August 5.

Hospital Report.—The report of the German Hospital shows that during the month ending July 20, 261 patients were admitted. Of this number 259 were discharged cured, 20 died and 162 remain at the hospital. During the same time 4,677 were treated in the dispensary, of which 1,298 were new patients, and 864 accidents.

To Protect Infants in Hot Weather.—A pamphlet entitled "Care of the Baby in Hot Weather" has been issued by the Bureau of Health, to be distributed by the assistant medical inspectors. It contains much valuable information for the guidance of mothers in the care of their children during the heated season.

Health Report.—During the week ended August 5 there was reported to the health bureau a total of 43 deaths, being an increase of 6 over those of last week and an increase of 55 as compared with the corresponding week of last year. The principal causes of death were: Typhoid fever, 8; whooping cough, 8; diphtheria, 4; tuberculosis, 52; cancer, 20; apoplexy, 15; heart disease, 34; diseases of arteries, 7; acute respiratory disease, 23; enteritis (under 2 years), 95; enteritis (2 years and over), 10; cirrhosis of liver, 7; appendicitis, 6; Bright's disease, 29; premature births, 14; congenital debility, 19; old age, 9; accidental injuries, 16; marasmus, 19. There were 166 cases of contagious disease reported, with 12 deaths, as compared with 123 cases and 25 deaths for the previous week. One hundred new cases of typhoid fever were reported for the week, as compared with 91 the previous week.

Impure Milk.—A bill was introduced in Common Council August 3, prohibiting the sale of adulterated or impure milk. The measure was referred to the committee on law. For all violations there is provided for the first offense a fine of $50, and for the second offense and subsequent offenses a fine of $100. For the enforcement of the terms of the ordinance an inspector of milk is to be appointed by the director of public safety, with the provision that a report is to be made to the Board of Health, the latter to furnish the newspapers with a full list of milk producers from whom samples have been taken during the previous month, with the results of the analysis and with notes indicating to what extent, if any, such samples were adulterated or otherwise altered or deficient. Four dealers accused of using adulterants in milk or selling skimmed for whole milk, were held under $300 bail each for court, August 4. Dr. Robinson of the Board of Health testified for the state.

Hospital Reports.—During the month of July there were 89 patients admitted to the Polyclinic Hospital; 101 were discharged, and 1,845 cases were treated in the dispensary.——The Presbyterian Hospital admitted 261 patients and discharged 267, 208 remaining August 1; 2,200 were treated in the dispensary.——The Women's Hospital admitted 108 patients and discharged 123, the number remaining August 1 being 76. In the clinics there were treated 521 new and 1,631 old patients, a total of 2,152.——Eighty-seven patients were admitted to the Methodist Hospital, 763 were treated in the dispensary and 2,843 visits were made to the dispensary.——In the Howard Hospital 279 accident cases were treated, 2,930 prescriptions were put up, 849 new dispensary patients treated and 31 admitted to the hospital.——The Medico-Chirurgical Hospital treated 211 house patients, 982 in the accident rooms and 5,117 in the dispensaries.——The German Hospital admitted 125 patients, discharged 110; number remaining, 72; 1,603 cases were treated in the dispensary.——In the Mount Sinai Hospital 3,903 patients were treated in the dispensary, 382 accident cases; admitted to wards, 72; discharged cured, 41; remaining at end of month, 31.——Number of cases admitted to St. Agnes' Hospital, 223; remaining in wards from last month, 99; discharged during month, 129; total number of patients in the hospital, 94; number of ambulance calls, 39; brought by patrol, 59; in the out-patient department there were 596 new cases, 2,122 old cases; radiographs, 15; massage and electricity, 154 cases.

TEXAS.

New College Building Almost Ready.—The new building for the medical department of Southwestern University, Dallas, will be ready for occupancy early in October.

New Officers for Hospital.—The directors of the Physicians' and Surgeons' Hospital, San Antonio, have elected Dr. Frank Paschal, first vice-president, and Dr. John S. Lankford, treasurer.

Many Treated for Rabies.—Dr. Benjamin M. Worsham, Austin, who is in charge of the Pasteur Institute, established a few months ago as an adjunct to the State Lunatic Asylum, reports that he has treated 65 patients, and that the institute has been more than self-supporting. Of the patients treated, 3 were bitten by skunks, one was bitten by a wolf, and the remainder were bitten by dogs rabid or suppposed so to be.

Personal.—Dr. Marvin L. Graves, San Antonio, superintendent of the Southwestern Insane Asylum, has resigned to accept the chair of medicine in the University of Texas, medical department, to succeed Dr. James M. McLaughlin. He has been succeeded by Dr. Thomas O. Maxwell, assistant superintendent of the State Lunatic Asylum, Austin.——Dr. John T. Moore, Galveston, associate professor of medicine in the State University Medical Department, has resigned.——Dr. George H. Prothro, Beaumont, sustained a cerebral hemorrhage July 20 and is in serious condition.

Hospital Notes.—A new hospital is to be erected at Temple by the Santa Fe Hospital Association.——The addition to the hospital at the Confederate Home, Richardson, for which an appropriation of $2,500 was made by the legislature, will soon be ready.——Dr. Leo E. Knopf is about to build a general hospital at Sterling City.——A donation of $5,000 has been received from McKinney for the Baptist Sanitarium, Dallas.——Temple Sanitarium has been incorporated at Temple with a capital stock of $20,000, by Drs. Arthur C. Scott and R. R. White, and F. K. Stroop.

GENERAL.

Yellow Fever Situation in Panama.—It seems to be the opinion of those in authority that the yellow fever situation on the isthmus is considerably ameliorated, and that Panama now needs only drastic sanitary measures.

Administration Buildings to Be at Ancon.—A cable from Panama states that as Ancon is the healthiest spot between Panama and Colon the Isthmian government has decided to construct there the administration buildings and residences for the governor and the employes.

Association of Obstetricians to Meet.—The American Association of Obstetricians and Gynecologists will hold its eighteenth annual meeting at the Hotel Astor, Longacre Square, New York, September 19-21. Dr. Robert T. Morris, 616 Madison avenue, New York, is chairman of the local committee of arrangements and will furnish further information on application.

American Public Health Association.—The thirty-third annual meeting will be held in Boston, Sept. 25-29, 1905. The secretary is Dr. C. O. Probst, Columbus, Ohio. Dr. H. P. Walcott, Cambridge, Mass., is the chairman of the local committee on arrangements. The subjects discussed will include: "Methods of Securing More Uniform Instruction and Co-operation in Health Work," "Water Supply," "Tropical Hygiene," "Porto Rico Anemia," "Yellow Fever," "Diseases Common to Man and Animals," "Military Hygiene," "Quarantine Methods," "Recent Researches in Smallpox," "Modes of Dissemination and Rational Quarantine in Epidemic Cerebrospinal Meningitis," "Disinfection," "Sewage and Waste Disposal," and "Car Sanitation."

American Academy of Ophthalmology and Oto-Laryngology.—The tenth annual meeting of this body will be held in Buffalo, Sept. 14-16, 1905. The secretary is Dr. George F. Suker, 103 State Street, Chicago. The chairman of the committee of arrangements is Dr. Alvin A. Hubbell, 212 Franklin Street, Buffalo, N. Y. Some of the forty-seven papers that are announced are on: "Formalin in Ear, Nose and Throat Practice," "Quinin Amaurosis," "Open Treatment or Dressing After Operation," "Glasses in Railway Service," "Retinal Changes as an Aid to Diagnosis in Vascular Degeneration," "Tubercular Iritis," "Bacteriology of Dendritic Keratitis," "Fallacies," "Radium in Diseases of the Throat," "Hay Fever Heresies," "Mastoid Operations," "Hemorrhage," "Failures in Ophthalmic Practice," "Teaching of Ophthalmology," "Diabetic Myopia," and "Cures of Migraine and Idiopathic Epilepsy by Glasses," etc., by Drs. Stein, Culbertson, Barck, Black, Woodruff, Keiper, Willetts, Freudenthal, Ewing, Stucky, Mayer, Gould, Alleman, Weeks and Wood, respectively.

THE YELLOW FEVER SITUATION.

REPORT FROM PRESIDENT OF STATE BOARD OF HEALTH—THE UNITED STATES ASSUMES CHARGE—PUBLIC HEALTH AND MARINE-HOSPITAL CIRCULAR.

Report from President of Louisiana State Board of Health.

In accordance with the request of THE JOURNAL, Dr. Edward Souchon, president of the Louisiana State Board of Health, very kindly sends the following report:

"The first intimation received by the health authorities in New Orleans of any case resembling yellow fever was on July 13, when two physicians reported to the president of the State Board of Health and to the city health officer jointly, two cases, one dead that day and the other dying, in which hemorrhagic vomiting, jaundice and uremic convulsions were present. Both cases were from the same locality, near the intersection of Decatur and Ursuline streets, in the second district of the city. In both cases autopsies were peremptorily refused. In the same section of the city, peopled almost exclusively by Italians, four more cases with similar symptoms were discovered within the next four days.

"In the absence of an autopsy it was not possible for the health authorities to make a positive announcement of yellow fever, but on July 18 the president of the State Board of Health informed the state health authorities of Texas, Mississippi and Alabama, and the surgeon-general of the United States Marine-Hospital Service, that cases presenting symptoms of yellow fever had come to his knowledge in New Orleans, and that an autopsy would be held at the first opportunity, also that all proper precautions were being taken. The Public Health Service detailed Surgeon J. H. White, on duty in Mobile, to come to New Orleans, where he arrived in company with Dr. C. A. Mohr, acting state health officer of Alabama, on the morning of July 21. The other states did not send any representatives. The visiting physicians were taken to see the fever patients under treatment, and they pronounced the cases to be clinically yellow fever. On the strength of this decision, which the president of the Louisiana State Board of Health immediately wired to the state health authorities of Texas and Mississippi, those states, following the example of Alabama, declared quarantine against New Orleans on the same evening, July 21. On July 22 an autopsy was secured on a case which died in the Charity Hospital, and in which the findings were positive, though not strongly typical. The interest of the medical profession of New Orleans and of the citizens being intensely aroused, an energetic house-to-house canvass of the affected district was begun. This work was greatly assisted by the co-operation of the Italian consul and certain public-spirited Italian priests and citizens of that nationality.

"Owing to the secretiveness and race prejudice of the people among whom the sickness prevailed, it was extremely difficult to get at the real facts. In some instances doors were found locked and barricaded and had to be broken down, discovering cases which had been concealed. This sanitary crusade caused an exodus of Italians, some of whom made their escape into the neighboring country, where they have developed cases of fever at eight or ten localities. In every instance these cases have been promptly discovered and proper steps taken to prevent the spread of the infection. In New Orleans the disease has been almost exclusively confined to the Italian populace, exceptions being a few people of other nationalities accidentally exposed in the infected district.

"Up to August 3 the record of cases, deaths and new foci has been as follows: Cases of fever, 432; deaths, 84; new sub-foci, 69.

"It is the belief of the Louisiana State Board that the infection was introduced by passengers arriving from Belize, British Honduras, prior to the announcement of fever there, May 24, by the representatives of the United States Public Health Service, up to which time, under clean bills of health issued by the American consuls, more than 200 passengers from Belize and Porto Cortes came through to New Orleans after April 1.

EDMOND SOUCHON, M.D.,
"President Louisiana State Board of Health."

Louisiana.

United States Assumes Charge.—On request of the governor of Louisiana that the United States Public Health and Marine-Hospital Service assume charge of the yellow fever situation, the President immediately offered any assistance in the power of the government. He also telegraphed Surgeon-General Wyman asking for a report on what the government might do in addition to what the local authorities were already doing. Surgeon Joseph H. White, who was placed in charge of affairs at New Orleans August 7, outlines his plans for combating the disease as follows:

Our work will be an enlarged application of the system at present in force—taking the utmost precautions to prevent persons from moving while in a possible incubative stage and infecting new districts; a rigid application of measures destructive to mosquitoes to the whole of any infected vicinity; daily inspection of every person in every house where there has been a case of fever and a duplication in such houses of destructive measures for mosquitoes.

The first eight of the forty surgeons of the Marine-Hospital Service who were assigned to duty in New Orleans are as follows: Passed Assistant Surgeons Rupert Blue, Joseph Greene, John McMullen and Donald H. Currie, Assistant Surgeons William C. Rucker, Steger, Smith and Sweet.

Demand That Militia Be Called.—The State Board of Health on August 8 decided to demand that the governor call out the militia to protect travel through the parishes which have imposed drastic quarantine against New Orleans.

New Orleans.—At a special meeting of the finance committee, August 6, $250,000 was offered to the federal government to be used for labor and supplies by the United States Public Health and Marine-Hospital Service in fighting the epidemic of yellow fever.

Archbishop Chapelle, who had been indefatigable in his work among the yellow fever sufferers, was seized with the disease August 5, and after having been reported as past the crisis, died August 9.

The record up to the evening of August 7 was as follows: Total cases to date, 565; total deaths to date, 113; total foci of infection, 97. On August 7 there were 32 new cases, with 8 deaths from 4 new foci of infection. On August 8 there were 60 new cases, with 4 deaths from 17 new sub-foci.

Outside Parishes.—Nineteen cases of fever were found at Patterson, St. Mary's Parish, August 7. Several cases were also found at Sellers, in St. Charles' Parish, 3 cases at Shreveport, with 2 deaths, 2 cases in Bon Ami and 1 in Jefferson Parish.

Telephone Service Suspended.—At Arcadia and Baton Rouge telephone service is reported to be suspended on account of the panic among employes in the country.

Detention Camps.—The camps at Fontainbleau, Slidell and Wyman have been improved and enlarged to accommodate the increased number to be held in quarantine.

Other States.

Alabama.—No other cases have been reported and the one patient at Montgomery is convalescing. The state health officer says that the state law guarantees to fever refugees the right to open windows and to have food and water, and that localities which forbid this are violating the laws.

Illinois.—The secretary of the Board of Health on August 5 issued the following order to local health officials south of a line drawn from Vincennes, Indiana, to East St. Louis:

The Illinois state board of health urgently requests your co-operation in the enforcement of its order pertaining to refugees from the south. No person from any district in which yellow fever has occurred or may occur in the future should be permitted to be permitted to enter Illinois south of the line above described western railway until ten days after he has left the said district. No person from a state in which yellow fever has occurred should be permitted to enter Illinois south of the line above described unless he presents a certificate of health from national, state or municipal health officers. The conditions in the south call for constant vigilance on the part of local health officials of southern Illinois.

The State Board of Health has ordered a restriction in the issuance of health certificates, which in the future will be issued only to citizens of Illinois or to persons vouched for by citizens of Illinois.

Illinois now has seven inspectors in Cairo, beside the secretary of the State Board of Health and his assistant. Dr. Egan reports that many are applying for health certificates.

Kentucky.—Kentucky will be an open state as far as refugees from the fever districts are concerned. The refugees will be subject to examination, however, and will be detained temporarily in camps near the principal cities and towns.

Mississippi.—In addition to the revenue cutter *Winona*, which is now at Gulfport; the revenue cutters *Forward*, now at Key West; *Hamilton*, now at Tampa, and *Seminole*, now at Wilmington, N. C., have been ordered to Gulfport to aid in the maintenance of the national quarantine.

Missouri.—The quarantine orders issued by the Missouri State Board of Health against districts infected by yellow fever will be enforced along the eastern border of the state as far north as St. Louis, along the entire southern border, and along the western border as far north as Kansas City. The

medical inspectors will examine all who enter the state from the South.

The St. Louis Board of Health, beginning August 8, will inspect passengers on trains and steamboats arriving from districts infected by the fever. Provision has been made to care for from 300 to 400 patients at the quarantine station.

New York.—Two members of the crew of the *El Paso*, from New Orleans, were removed to Hoffman's Island, August 5, on account of high temperature.——One member of the crew of the *Ligonier*, from Port Arthur, was removed to Hoffman's Island at the same time for observation.——The man from the *Seguranca*, who was detained at quarantine on suspicion of having yellow fever, is improving, and it is thought that his trouble is nothing more than malarial fever.——One passenger and five of the crew of the *San Jacinto*, from Galveston and Key West, have been transferred to Hoffman's Island for observation.——William B. Smith, a pantryman taken from the steamer *Advance*, from Colon, on August 3 with nine other suspects, died from yellow fever August 6. This is the third case of yellow fever on ships entering New York this year and the second death. There are at present nineteen other persons who are detained because of high temperature.

Pennsylvania.—The British steamship *Barnton*, from Port de Paix, Haiti, for Chester, has arrived at the Delaware breakwater with fifteen of her crew ill with "malarial fever." The ship called at Colon before leaving Port de Paix, and after leaving this port she put into Inagua for medical attendance on account of sickness of two of the crew, who were put off at that place. None of the crew has been removed from the ship and the Marine-Hospital authorities have not disclosed the nature of the disease.

Director Martin, of the Department of Public Health and Charities, Philadelphia, has made arrangements for the establishment of a field hospital in the Thirty-third ward for the treatment of any case of yellow fever that may reach the city. Search has been made along the piers of the river front and among the fruit to see if any *Stegomyia fasciata* could be found. All vessels and those on board are daily investigated by the state and federal officers at the quarantine stations at Marcus Hook and Reedy Island.

The State Quarantine Board met August 4 to take action to prevent yellow fever entering the port of Philadelphia from New Orleans. The meeting was called by Dr. Dixon, state commissioner of health, and one of the objects of the meeting was to prevent cargo from any ship from New Orleans or vicinity from being landed there.

South Carolina.—The mayor of Charleston has proclaimed a quarantine against fever refugees, to take effect August 6.

Tennessee.—The urgent quarantine decided on by the Memphis City Council was put in operation at noon, August 7. Guards were placed in the city and inspectors on every train so that no one can enter the city without a permit from the local board of health.

General.

HOW TO PREVENT YELLOW FEVER.

The Board of Public Health and Marine-Hospital Service on July 31 issued a circular emphasizing the practical bearings of the mosquito theory of the causation of yellow fever. Part of it is as follows:

NO MOSQUITOES, NO YELLOW FEVER.

"The infection of yellow fever is carried by mosquitoes, and by no other means is the infection spread.

"Persons take the disease by being bitten by mosquitoes that have previously bitten a yellow-fever patient.

"The mosquitoes to become infected must bite a yellow-fever patient during the first three days of his attack. These first three days, therefore, are the most important time for preventing the access of mosquitoes to a fever patient.

"It is often difficult to decide during the first three days whether a patient has yellow fever; hence the necessity in threatened communities of placing a mosquito bar immediately around every patient who has fever of any kind, and for three days at least.

FACTS ABOUT SCREENING.

"1. The netting used should have meshes fine enough to prevent the passage of mosquitoes (at least 18 to 20 meshes to the inch).

"2. It is important to screen the windows and doors of the house. It is doubly important to screen the beds of fever patients.

"3. Mosquitoes can bite through mosquito nets when any part of the patient's body is in contact with the netting.

"4. Frequent examinations should be made to see that there are no torn places in the netting or that no mosquitoes have found a lodging inside.

"5. The netting should be well tucked in to keep mosquitoes from entering.

"6. If mosquitoes are found within the netting they should be killed inside and not merely driven or shaken out.

"7. All cases of fever should be promptly reported to the local health officer. Awaiting his arrival they should be covered with a mosquito bar.

FACTS BEARING ON MOSQUITO DESTRUCTION.

"1. Mosquitoes live in the vicinity in which they breed. They do not often fly a long distance.

"2. Mosquitoes breed only in water—usually in artificial collections of fresh water.

"3. The young mosquito, or wriggler, lives in water at least seven to twelve days.

"4. Although the wrigglers live in water, they must come frequently to the surface to breathe.

"5. Coal oil on the surface of the water prevents the wrigglers from breeding.

"6. Destroy the breeding places and you will destroy the mosquitoes.

"7. Empty the water from all tubs, buckets, cans, flowerpots, vases once every forty-eight hours.

"8. Fill or drain all pools, ditches, unfilled postholes, and the like.

"9. Change regularly every day all water needed in chicken coops, kennels, etc.

"10. Treat with oil all standing water which can not be screened or drained (1 ounce of oil will cover 15 square feet of surface). The oil does not affect the water for use if the water is drawn from below.

"11. Where oil is applied to standing water it must be distributed evenly over the surface.

"12. Put fine wire netting over cisterns, wells and tanks of water in everyday use.

"13. Places in which it is undesirable to put oil, such as watering troughs for stock, lily ponds, and so forth, can be kept free from wrigglers by putting in gold fish or minnows.

"14. Clean away all weeds, grass, and bushes about ditches, ponds, and other possible breeding places, since these afford a hiding place for the mosquitoes.

"15. Clean up vacant lots and back yards of all cans, tins, bottles and rubbish.

"16. First do away with, or treat, all places where mosquitoes are known to breed, and then begin to work on places where they might breed.

"17. Inspect and treat with coal oil gutters, culverts, ditches, manholes, catch basins, etc., along the roadside. Manhole covers should be screened.

"18. Houses should be cleared of mosquitoes by burning 1 pound of insect powder or 2 pounds of sulphur to 1,000 cubic feet of space. The mosquitoes will fall to the floor and should be collected and burned.

"19. Success in mosquito destruction depends on the co-operation of the members of the entire community.

"20. While the infection of yellow fever is carried by a single species of mosquito (the *Stegomyia*), to insure its destruction it is necessary to destroy all mosquitoes.

"In places liable to yellow fever both individuals and communities have an effective method of protecting themselves, as indicated above. Use the mosquito bar at once over all cases of fever until the danger from yellow fever has passed. Destroy all mosquitoes."

Paralysis of Fruit Trade.—Central American steamers are beginning to go back to New Orleans as the Mississippi ports have instituted a strict quarantine against them, and as edicts have been issued against them forbidding fruit trains to go through Mississippi towns.——The United States Fruit Company has already ordered four of its ships back to New Orleans on account of the increase in rigidity of the regulations at Mobile.

Train Service Suspended.—On account of the yellow fever all passenger trains have been discontinued between New Orleans and Houston, putting an end for the time to all through service on the Southern Pacific system.

Mimic War Ends.—The difficulty between the naval forces of Louisiana and Mississippi culminated on August 5, when the Louisiana naval reserves drove from the Louisiana waters the entire forces of the Mississippi quarantine patrol fleet.

Foreign Experts Are Coming.—Surgeon-Major Ronald Ross, I. M. S. (retired), professor of tropical medicine, and Dr. Rupert W. Boyce, professor of pathology and dean of the School

of Tropical Medicine, Liverpool, sail August 12 on the *Campania* for New York, en route to New Orleans.

Suspend Cuban Mails.—The postoffice department wired a general order August 8, suspending the dispatch of mails via New Orleans, for the Canal Zone, Cuba and the Republic of Panama.

CANADA.

British Medical Association Coming to Canada.—The British Medical Association has accepted the invitation of the Canadian Medical Association and the local branch of the B. M. A. in Toronto to meet in Toronto in 1906.

Winnipeg General Hospital.—During the week ending July 22, the total number of patients treated in this hospital, was 311, of whom 186 were men, 98 women and 27 children. In the out-door departments 109 were treated.

Honors for Canadian Medical Men.—Mr. I. H. Cameron, professor of surgery in the University of Toronto, and Dr. Francis J. Shepherd, professor of anatomy in McGill University, attended the centenary of the Royal College of Surgeons of Edinburgh and were honored with the degree of LL.D.

Generous Gift to Toronto Hospital for Sick Children.—Mr. John Ross Robertson, proprietor and publisher of the *Evening Telegram*, Toronto, and founder of the hospital for sick children, has recently made a presentation to the hospital of $75,000 for a nurses' home, which will be erected immediately, on the property to the south of the hospital.

Personal.—Dr. F. F. Wesbrook, professor of bacteriology in the University of Minnesota, has been visiting in Winnipeg. ——Dr. Donald McMaster, Sydney, Australia, sailed for England from Montreal on July 28. He has been inspecting children's hospitals through the United States and Canada, in the interests of the Royal Alexandra Hospital of Sydney, which is to be built in the near future.

British Columbia Medical Association.—The annual meeting of the British Columbia Medical Association was held at Vancouver, B. C., July 18-20. Dr. W. D. Brydone-Jack of that city being the president. Among the many members of the American Medical Association who attended the British Columbia meeting after they had been at the Portland session was the President-elect, Dr. W. J. Mayo of Rochester, Minn., who delivered an address on surgery.

Toronto General Hospital.—The city council of Toronto have approved of a by-law to raise $200,000 for the Toronto General Hospital. There was some opposition to the vote owing to the fact that members of the staffs of other hospitals in Toronto opposed it, taking the ground that such a large sum should be voted on by the rate payers and that the other hospitals should share in the donation.——Dr. J. N. Elliott Brown, Toronto, formerly secretary of the Ontario Medical Association, and for the past six years medical health officer, secretary to the governor and gold secretary at Dawson, has been appointed medical superintendent of the Toronto General Hospital to succeed Dr. Charles O'Reilly. July 27 the trustees, members of the staff and nurses of the institution, were presented to Dr. Brown at an informal reception held for his benefit.

FOREIGN.

Plague in India.—The mortality from plague in India is declining throughout the empire.

Plague in Peru.—Ten cases of plague are reported from Paita, in Northern Peru, with three deaths.

Plague and Variola in Brazil.—According to *Public Health Reports*, bubonic plague and variola have formed a fatal alliance in Rio Grande do Sul.

Plague in Chili.—A cable report from Santiago states that on July 9 a case of plague appeared in Junin, and that a suspicious case occurred July 17 in Antofogasta. July 20 the isolation hospital for plague patients was destroyed by fire.

Plague in Japan.—No additional cases of plague have occurred in Japan (excluding Formosa). The prompt suppression of plague in Kagawa Ken, after the disease had gained such a strong foothold, reflects great credit on the sanitary authorities.

Famine and Cholera in India.—A cable from Madras on July 31, stated that cholera had broken out among the refugees from the famine-stricken districts who have been crowding into the city for weeks. The death rate from cholera is stated to be 89.7 per thousand.

New Morgue for Sydney.—It is reported that in view of the representations made by the Health Board of Sydney, Australia, the government has appropriated $15,000 for the erection of a new morgue. It is intended that the building shall be similar in design to the Paris morgue.

New British Red Cross Society.—Under the auspices of Queen Alexandra a new Red Cross Society has been formed to co-ordinate all those existing societies for the care of the sick and wounded in war. It is hoped that Sir Frederick Treves will consent to preside over the executive council.

International Congress of Criminal Anthropology.—The sixth International Congress of Criminal Anthropology will be held at Turin, April 26, 1906. In connection with the congress there will be an exhibition of instruments and apparatus for the diagnosis of physical malformations favoring or influencing the tendency to crime, as well as the various methods of detecting criminal acts.

Memorial Homage to a Peruvian Confrère.—The *Cronica Medica* of Lima gives a list of ten prizes, ranging from $6 to $20, to be awarded for articles bearing on the scientific work of Dr. Raimondi and his personality. The first four prizes are for works on due "appreciation of his studies in the inorganic world," and the next four for the same for the "organic world," and the other two for "the personality of Raimondi and the transcendency of his work." The jury is a large one and comprises engineers as well as physicians. The books and scientific collections of the "Raimondi museum" are placed at the disposal of the competing authors.

Yellow Fever in Guatemala.—According to a report by Acting Assistant Surgeon Peters of the United States Public Health and Marine-Hospital Service, malaria and yellow fever are the prevailing diseases in Livingston. From July 6 to July 15, 4 cases of yellow fever occurred, one of which terminated fatally. Dr. Peters states that other cases of yellow fever undoubtedly have occurred, but have not been reported. He states that the authorities, while denying that the disease is yellow fever, acknowledge that it is a bad fever and that it kills. At first they fumigated the houses in which these cases occurred, but lately have not been doing so.

A School for Mothers in Madrid.—The *British Medical Journal* states that a school for mothers has been founded in Madrid by the Marquis and Marchioness de Casa-Torre. The medical director is Dr. Ulecia, who has charge of a dispensary for sick and weakly children. He gives regular instruction to mothers, making each case as it presents itself the text of a discourse in simple language on the best manner of feeding and generally caring for the child. All the mothers are present so that all may have the benefit of the demonstration. If sterilized milk is considered necessary, it is supplied; food and clothes are also distributed to deserving cases.

The Munich Medizinische Wochenschrift in Court.—The secretary of a Bavarian medical chamber, Dr. H. Sternfeld, considered that he had a grievance against the *Münchener med. Wochft.* for certain circumstances connected with the publication of the transactions of his medical chamber (Oberbayerische Aerztekammer). He consequently sued the responsible editor for damages, but the suit was dismissed with costs both in the first court and in the court of appeals. The editorial comment on the affair is as follows: "The case is typical of the present state of sentiment among colleagues here in Munich. It shows how, in certain circles, a person will act directly contrary to all considerations of professional amity when it is a question of injuring a colleague who has fallen into private disfavor. Private letters not intended for publication were published abroad and a suit for slander built up on absolutely trivial grounds to injure a colleague who had acted solely in the exercise of his professional duties as editor of the local weekly medical journal."

Sanitary Conditions in the Argentine Republic.—It is stated in *Public Health Reports* that the sanitary conditions in this republic are very bad. During the last month terrible floods have been prevalent in portions of the republic, and many lives have been lost either directly as a result or indirectly as a result of illness among persons temporarily living without any shelter. In addition, the weather there has been very cold and rainy, and with heavy fogs. Many of the people living in the districts lately flooded by the heavy rains are now sufferers from pulmonary affections. This is especially true of the northern portions of the republic. In Santa Fe this state of affairs prevails to such a degree as to suggest the conditions of an epidemic of some serious disease. In Gualeguay the rise on the rivers and streams is of such an extent that the surrounding country is inundated to a distance of 25 kilometers. A dispatch dated July 29 states that by a decree of the executive government most important sanitary works for the betterment of the population have been ordered in the province of Santa Fe.

International Medical Association for the Suppression of War.—One of the first acts of this new society was to pass resolutions congratulating President Roosevelt on his initiative and his efforts to bring "two nations together which have been separated by an abyss growing deeper every day." Other resolutions adopted urged a formal declaration of war as the indispensable preliminary to hostilities. Also that it would be wise and humane to insist on an international control of the manufacture of arms and modern explosives. Also that international problems should henceforth be submitted for solution to two tribunals, an international and a humanitarian tribunal. The first, composed of delegates from the corporations, would pass judgment on the question at stake. The second tribunal would be formed of representatives elected by each nation, and this would decide the questions affecting international and humanitarian laws. As mentioned before in these columns, membership in this international association is restricted to physicians. The central office is 25 rue des Mathurins, Paris. Dr. J. A. Rivere is the president.

Public Manifesto of the Medical Profession in Belgium.—The national federation, which includes most of the medical societies of Belgium, has been moved to action by various grievances against the state, the last straw being the refusal of the government to allow the incorporation of the medical assurance company, as mentioned in THE JOURNAL, June 24, page 1996. The federation has now issued a manifesto addressed "to the government, to our fellow-citizens, in the name of the physicians of Belgium." It is published in full in the *Gaz. Méd. Belge*, June 22, with a preamble setting forth that the medical corps has never stinted its devotion to the institutions created in the interests of society. "It is always physicians who devote themselves and their energies and who take the lead in all the crusades against social plagues. The crusade against alcoholism, against tuberculosis and against infant mortality were started by physicians. Defenders of public hygiene, propagandists of all the reforms tending to the amelioration of the race, they have always felt in honor bound to place the interests of the whole above their private interests. But physicians are men, and as such they claim the right to live by their profession and not to be placed—on account of their profession—outside of the common laws framed for the benefit of all." The manifesto then takes up one by one various injustices inflicted on physicians by regulations which exclude them specifically from the rights of other citizens or impose special unremunerated duties on them. One of the eight clauses protests against a regulation, dating from 1903, which permits proprietors and insurance companies to send to the free public hospitals the workingmen injured in their service or insured in the societies. The public hospitals, the manifesto states, are made for the poor, not to relieve insurance companies of caring for their injured policyholders. The physicians of the public hospitals, who generally devote their services almost gratuitously, ought not to be burdened with the unremunerated care of these non-indigent persons. Clause 7 states that the number of unremunerated demands made on the physicians by the state is constantly increasing: declaration of diseases, compiling of statistics, free consultations, etc. The national and local administrations are so accustomed to relying on the devoted services of the medical corps that they never think of paying for any of the labor thus imposed. The medical profession believes that it is the duty of the government to take cognizance, in some way besides by mere platonic compliments, of the work constantly being done by physicians for the general welfare. Three-fourths of the entire burden of caring for the sick poor rests on the shoulders of physicians. The manifesto also refers to the refusal to incorporate *La Médicale*. "This society," it says, "grouped a large number of Belgian physicians, and by its powers and functioning it protected these confrères against the pretensions of ordinary insurance societies, insured them suitable remuneration and insured its policyholders prompt aid, prompt reparation and the free choice of physician. The refusal of the government to permit the incorporation of the society is an injury inflicted on the dignity and prestige of the medical profession and on its legitimate material interests." In conclusion the manifesto reiterates the fact that the physician's career is one of self-sacrifice and devotion. His hours are largely given to the poor and to promote the general welfare. He asks to be accorded the same rights as other citizens, at least. L. Merveille of Chênée, editor of the *Gazette*, is president of the federation, and heads the list of the signers, followed by the seven other officers.

DUBLIN LETTER.

The Irish Medical Association.

The annual meeting of the Irish Medical Association has come and gone, and all who attended it seem to have enjoyed a pleasant social gathering. It was held in famous Killarney, and was favored with good weather, so it was perhaps natural that those present succumbed to the *dolce far niente* influence of the place, and that the business which brought them together was somewhat neglected. Of the work actually done at Killarney there is little to record. It was decided to discontinue the publication of the "Irish Medical Directory," which had brought much discredit on the association. It was decided also to maintain the present standard of salaries in the Poor Law Medical Service in spite of the fact that it is disregarded by members and non-members alike.

The Coombe Hospital.

The annual meeting of the Coombe Hospital was held July 6. In the annual report it is stated that a total of 17,351 patients were treated in the hospital, and that only five deaths had occurred during the year. The maternity department has been much improved, a suitable waiting ward and a labor theatre having been added. The number of students attending the hospital had passed all previous figures, and many former students had returned for second or third periods of work. The number of probationary nurses also remained satisfactory.

The Royal Hospital for Incurables.

The Royal Hospital for Incurables, in existence for more than one hundred and sixty years, made a new move this year in summoning the first annual meeting of its friends and subscribers. The meeting, which was held at the hospital on July 6, was well attended. The report showed that of the 213 beds in the hospital, the average number occupied through the year had been 205. Of these thirty-nine were reserved for consumptive patients, and thirty-two for cancer. The result of the treatment of consumption in the hospital showed that even among the patients classed as incurable, healthy surroundings, careful nursing, and sufficient feeding were able to cause a great improvement in health and a prolongation of life.

Dr. Smyly Knighted.

The King has conferred the honor of knighthood on Dr. William J. Smyly, the well-known gynecologist and obstetrician. Dr. Smyly is an ex-master of the Rotunda Hospital, an ex-president of the British gynecologic society, and one of the leaders of the Dublin School of Midwifery.

Correspondence

Cocain and Adrenalin in Enucleation of the Eye.

JACKSONVILLE, FLA., July 28, 1905.

To the Editor:—Hemorrhage during enucleation of the eye is often annoying from the moment of the first incision into the conjunctiva until the final separation of the globe from its attachment, and during the operation is frequently so profuse that special forceps have been devised for its control. If, as the patient goes under the anesthetic, a few drops of a 4 per cent. solution of cocain be dropped into the eye, followed in about five minutes by a few drops of solution of adrenalin chlorid 1-1000, it will be found that it will be necessary to use only a minimum quantity of the anesthetic, and that a most remarkable contraction of even the deeper blood vessels will occur, making the operation practically bloodless.

C. DREW, M.D.

Expulsion of Placenta Before Birth of Child.

LADINAS, CAL., July 19, 1905.

To the Editor:—In reply to Dr. Butt's question in THE JOURNAL, July 1, p. 60, permit me to report a case of twins occuring in my practice in New Mexico. The patient, Mrs. D., Mexican, aged 25, iv-para, was taken in labor 24 hours before I was called. I administered treatment for the uterine inertia present. About five hours later, a healthy child was delivered by the aid of forceps. In about ten minutes, the second child, in the vertex position, was delivered, pushing ahead his own placenta. He was somewhat asphyxiated but was easily revived, and two weeks later was more vigorous than the other. There was no more hemorrhage than in the ordinary normal case. I concluded that the uterus while contracting to expel the first child had loosened the second child's placenta which might have been placed very near the

internal os. I have as yet been unable to learn of a living child who, without any serious hemorrhage, was delivered after its own placenta. N. E. RICHARDSON.

Marriages

ROBERT H. GOHEEN, M.D., to Miss Edith Ewing, at Wooster, Ohio.

HARRY D. MURDOCK, M.D., to Miss Cathleen Crugo, Winton, South Dakota.

JAMES L. REILLY, MD., Chicago, to Miss Caroline Lynch of Peru, Ill., July 28.

ISOM H. PHIPPS, M.D., Needham, Ind., to Miss Bertha Mabel Cutsinger, July 21.

HAROLD S. WARREN, M.D., to Miss Mary Patterson of San Francisco, July 23.

WILLIAM L. BELL, M.D., U. S. Navy, to Miss Frances Thomas of Astoria, Ore., July 24.

NILS P. HANSEN, M.D., Oakland, Neb., to Miss Ruby Latta of Tekamah, Neb., July 28.

EDWARD L. BURKE, M.D., Culdesac, Idaho, to Miss Mae Thayer of Lyons, Ore., July 24.

J. ELIOT FOLTZ, M.D., Hutchinson, Kan., to Miss Gertrude Harrison of Topeka, Kan., July 5.

E. E. MARTIN, M.D., Del Norte, Colo., to Miss Bertha L. Gregoire of De Witt, Iowa, July 7.

FRANK M. GORDOY, M.D., Cusseta, Ga., to Mrs. Johnnie G. O'Neal of Columbus, Ga., July 26.

BERTRAM M. BERNHEIM, M.D., Louisville, Ky., to Miss Hilda Hess Marcus, at Baltimore, July 26.

ISADORE DYER, M.D., New Orleans, to Miss Mercedes Louise Percival, at New Orleans, July 31.

WILLIAM DANIEL SNIVELY, M.D., Rock Island, Ill., to Miss Mary Willf of Philadelphia, June 21.

JOSIAH MORRIS SLEMONS, M.D., Baltimore, to Miss Annie M. Goodsill, at Plattsburg, N. Y., August 2.

HAMILTON K. DERR, M.D., Hagerstown, Md., to Miss Louisa McCoy, at Washington, D. C., August 3.

WALTER EUGENE VOGT, M.D., to Miss Henrietta Whitney Parker, both of Brooklyn, N. Y., August 2

HALSTEAD S. HEDGES, M.D., Charlottesville, Va., to Miss Pernette Spencer, at Keysville, Va., July 26.

HENRY W. HOWDEN, M.D., Philadelphia, to Miss Helena Worsley, of South Bethlehem, Pa., March 21.

WALTER B. GOSSETT, M.D., Louisville, Ky., to Miss Pattie Zollman, of New Albany, Ind., at Louisville, July 25.

Deaths

Thomas J. Maxwell, M.D. Medical Department State University of Iowa, Keokuk, 1861, a member of the American Medical Association; sometime president of the Iowa State Medical Society, member of the Military Tract Medical Association, Tri-State Medical Society of Iowa, Illinois and Missouri, Des Moines Valley Medical Association, American Association of Obstetricans and Gynecologists, and American Association of Railway Surgeons; professor of principles and practice of surgery and clinical surgery at Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, and previously professor of state medicine and hygiene, anatomy, and obstetrics and gynecology in the same institution; during the Civil War assistant surgeon of the Third Iowa Volunteer Cavalry and surgeon of the One Hundred and Thirty-Eighth U. S. C. T.; one of the most noted surgeons of the middle west, whose method of treating intracapsular fracture of the femur added prominence to his name; died at his home in Keokuk August 1, from cerebral hemorrhage, after an illness of one week, aged 68.

O. Wellington Archibald, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1871, a member of the American Medical Association and of the Association of Military Surgeons of the United States; formerly acting assistant surgeon, U. S. Army, and superintendent of the Iowa Institution for the Feeble Minded, Glenwood, and the North Dakota Hospital for the Insane, Jamestown; a prominent oculist and aurist of St. Paul, Minn., who had been ill for a few days, fainted while taking a bath, July 28, and drowned, aged 60. The Minnesota State Medical Society and the Ramsey County Medical Society adopted resolutions of eulogy and regret, and Drs. John F. Fulton, Arthur Sweeney, Alexander J. Stone, and William D. Kelly of St. Paul, and Dr. Arthur C. Rogers, Faribault, acted as pallbearers.

James F. McShane, M.D. University of Maryland School of Medicine, Baltimore, 1870; vaccine physician, assistant health commissioner and from 1892 to 1897 health commissioner of Baltimore; associate professor of hygiene at the Baltimore Medical College; a member of the Medical and Chirurgical Faculty of Maryland, died at his home in Baltimore, August 1, from progressive paralysis, after an illness of two years, aged 53.

J. Francis Ross, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1868; in 1876 vice-president of the Medical Society of the State of Pennsylvania; for many years assistant medical director of the Pittsburg and Western Railroad; died at his home in Clarion, Pa., July 28, from cerebral hemorrhage, after an invalidism of one year, aged 61.

James Hedenberg, M.D. Castleton (Vt.) Medical College, 1852, a member of the Massachusetts Medical Society and of the Middlesex South District Medical Society, for several years a member of the Medford school board; died at his home in Medford, Mass., from heart disease, July 26, after an illness of two years, aged 74.

Herman J. Schiff, M.D. College of Physicians and Surgeons in the city of New York, 1884, of New York City, member of the state association and county society, visiting surgeon to St. Marks Hospital and Mount Sinai Dispensary, died suddenly at Alexandria Bay, N. Y., July 24, from acute gastritis, aged 42.

Uriah Long, M.D. Bellevue Hospital Medical College, New York City, 1865, three times coroner of Colfax County, Neb., and twice city physician of Schuyler; a member of the state and county medical societies, died at his home in Schuyler, July 16, from cardiac dropsy, after an illness of a year, aged 75.

George W. Wackerhagen, M.D. College of Physicians and Surgeons in the City of New York, 1869, a member of the Medical Society of Kings County, and of the Brooklyn Pathological Society, and ex-president of the Brooklyn Surgical Society, died suddenly at his home in Brooklyn, July 25, aged 59.

Wiliam Henry Ellery Masser, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1880, formerly an officer in the Navy, and later on a practitioner of Los Angeles, Cal., died July 23, at the Good Samaritan Hospital, Sunbury, Pa., from intestinal obstruction, aged 53.

Alexander P. Nelson, M.D. Rush Medical College, Chicago, 1864, assistant surgeon of the Eighty-fourth Illinois Volunteer Infantry during the Civil War, died at his home in Kirkwood, Ill., July 19, from cerebral hemorrhage, after an illness of one day, aged 77.

Alexander T. Mitchell, M.D. University of Virginia Medical Department, Charlottesville, 1894, of Vicksburg, Miss., a surgeon in the navy during the Spanish-American War, died at St. Joseph's Infirmary, Lexington, Ky., July 18, after an illness of two years.

Francis Newton Gibson, M.D. Dartmouth Medical School, Hanover, N. H., 1861, assistant surgeon and surgeon of the Ninth New Hampshire Volunteer Infantry in the Civil War, died at his home in Lincoln, Neb., July 11, after a long Illness, aged 65.

Lewis Lynn McCabe, M.D. St. Louis Medical College, 1872, a member of the staff of Mullanphy Hospital, St. Louis, for twenty-five years, died at that institution July 27, from disease of the stomach after an illness of six years, aged 55.

P. Edward Anderson, M.D. Jefferson Medical College, Philadelphia, 1859, Surgeon of the Third Virginia Cavalry, C. S. A., during the Civil War, formerly of Rodophil, Amelia County, Va., died at his residence in Richmond, July 2, aged 67.

Alva H. Shelton, M.D. Cincinnati College of Medicine and Surgery, 1886, a member of the American Medical Association, died suddenly at his home in Long Beach, Cal., July 25, from cerebral hemorrhage, aged 40.

George M. Schweig, M.D. Bellevue Hospital Medical College, New York City, 1872, for many years in the service of the New York City Board of Health, died at his home in New York City, July 5, from heart disease, aged 63.

William J. McDowell, M.D. University of Maryland School of Medicine, Baltimore, 1874, a member of the Medical and Chirurgical Faculty of Maryland, died at his home in Baltimore from Bright's disease August 3, aged 51.

Jesse W. Williams, M.D. College of Physicians and Surgeons, Baltimore, 1890, a health warden of Baltimore, died at the City Hospital, Baltimore, from typhoid fever, August 1, after an illness of 20 days, aged 28.

Horatio F. Wood, M.D. Kentucky School of Medicine, Louisville, 1884, formerly of Chicago, died from paresis at the Illinois Eastern Hospital for the Insane, August 3, after an illness of four years, aged 43.

Robert A. Hardin, M.D. University of Louisville Medical Department, 1861, of Savannah, Tenn., died suddenly from heart disease July 31, at Elkmont Springs, Tenn., where he was spending the summer.

Palmer W. Roberts, M.D. Howard University Medical Department, Washington, D. C., 1883, of Washington, D. C., died in Garfield Hospital in that city, July 20, after a protracted illness, aged 63.

Robert H. Ramsey, M.D. Jefferson Medical College, Philadelphia, 1897, fell from a window in Clarksburg, W. Va., July 30, sustaining injuries which caused his death a short time after.

Peter Looney, M.D. Transylvania University Medical Department, said to have been the oldest physician in Henry County, Tenn., died at his home in Paris, July 26, aged 83.

Robert Walter Pearce, M.D. University of Louisville (Ky.) Medical Department, 1852, died at his home in Louisville, July 29, from senile debility, after a lingering illness, aged 75.

John M. Edwards, M.D., University of the State of Missouri Medical School, Columbia, 1883, died at his home in Bevier, Mo., July 31, after a brief illness from gastritis, aged 51.

Robert H. Hightower, M.D. University of Louisville Medical department, 1872, of Dublin, Ga., died at Atlanta a few hours after an operation for pyonephrosis, July 22, aged 50.

C. Paul Knight, M.D., Medico-Chirurgical College of Philadelphia, died at his home in Clinton, N. J., from tuberculosis, July 18, after an illness of fifteen months, aged 30.

James F. McDougall, M.D. State Certificate Tennessee, 1889, one of the oldest practitioners of Western Tennessee, died at his home in Savannah, July 15, aged 80.

John C. Mundy, M.D. University of Virginia Medical Department, Charlottesville, 1853, died at his home in Allen's Creek, Va., July 13, from heart disease, aged 75.

Walter S. Hay, M.D. Medical College of the State of South Carolina, Charleston, 1874, of Allendale, S. C., a Confederate veteran, died at Aiken, S. C., July 29.

Isaiah White, M.D. New York University, New York City, 1885, one of the oldest practitioners of Utah, died at his home in Salt Lake City, July 23, aged 77.

Samuel Pagin, M.D. Chicago, 1870, died at his home in Goshen, Ind., from cerebral hemorrhage, July 26 after an illness of four days, aged 76.

John Yauney, M.D. Albany (N. Y.) Medical College, 1857, died at his home in Ephratah, N. Y., July 24, after an illness of one year, aged 77.

George Ayres Hewitt, M.D. Jefferson Medical College, Philadelphia, 1877, of Philadelphia, Pa., died at Cape May, N. J., August 1, aged 57.

William W. Clark, M.D. Albany (N. Y.) Medical College, 1894, was drowned in a creek near his home in Maine, N. Y., July 26, aged 36.

Ferdinand G. Oehme, M.D. University of Leipsig, 1892, formerly of Roseburg, Ore., died at his home in Portland, Ore., July 23, aged 79.

David T. Kyner, M.D. Rush Medical College, Chicago, 1856, died at his home in Blue Mound, Ill., July 23, after a long illness, aged 72.

Wesley Light, M.D. Chicago, 1901, died at his home near Freedom, Ind., July 13, from paralysis, after a long illness.

Book Notices

ATLAS AND TEXT-BOOK OF TOPOGRAPHIC AND APPLIED ANATOMY. By O. Schultze. Edited with Additions by G. D. Stewart, M.D. With 125 Illustrations, 85 in Colors. Cloth. Pp. 189. Price, $5.50 net. Philadelphia: W. B. Saunders & Co. 1905.

In this one work an atlas and a text-book are excellently combined. It treats of the anatomy of the human body in its most practical aspects. The author well understands the method of clinical application of a knowledge of anatomy and the entire book is written with this in mind. The illustrations are exceptionally clear and are of a high order. There are many colored drawings of topographical relations which will be of great value to the general practitioner as well as to the surgeon. The translation is excellent and the American editor has added some instructive cuts.

AN INTRODUCTION TO CHEMICAL ANALYSIS, for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology and Head of the Department of Chemistry in the University of Iowa. Second Revised Edition. Illustrated. Cloth. Pp. 255. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1905.

This work, now in its second edition, has been adopted by the author for his class work, and is designed for students in three branches of medicine, viz.: medical, dental and pharmaceutical. The exercises are interleaved with series of questions suggestive to further reference and study. The reactions are also chosen to illustrate chemical incompatibilities of medicinal substances as well as antidotes for poisons. Testing of water, detection of poisons and blow-pipe analysis are also included.

THE DETECTION OF POISONS AND STRONG DRUGS, Including the Quantitative Estimation of Medicinal Principles in Certain Crude Materials. By Dr. Wilhelm Autenrieth, Professor in the University of Freiburg. Authorized Translations from the Third Enlarged German Edition. By William H. Warren, Ph.D., Professor of Chemistry, Medical Department of Washington University, St. Louis, Mo. Seventeen Illustrations. Cloth. Pp. 222. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1905.

This is a translation of the well-known German work and therefore retains the processes of the German Pharmacopeia, which the author suggests may be valuable for comparison with those of the U. S. Pharmacopeia. The distribution and elimination of poisons in the animal body are briefly considered, what organs should be examined, what alteration poison undergoes in metabolism, and in what form it is eliminated. Biologic methods used in detecting arsenic and human blood are also included.

THE INFLUENCE OF GROWTH ON CONGENITAL AND ACQUIRED DEFORMITIES. By Adoniram Brown Judson, A.M., M.D., Orthopedic Surgeon to the Out-patient Department, New York Hospital, 1878-1903. Profusely Illustrated. Cloth. Pp. 276. Price, $2.00. New York: Wm. Wood & Co. 1905.

This book is a brief review of orthopedic surgery with special consideration of the effect of growth. Dr. Judson quotes Hilton as saying that "repair is but the repetition of growth;" natural or artificial rectified growth may thus be counted on in the child or adolescent to substitute for repair, or to supplement it, in the treatment of orthopedic deformities and diseases. The author does not claim to present matter essentially new; the point of view, however, is new and instructive, and the ordinary features of classical orthopedic surgery are grouped around this center in such a way as to make the book interesting and useful.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

ALLEGED UNSCIENTIFIC STATEMENTS BY PHYSICIANS.

Dr. L. sends us a newspaper clipping which narrates the remarkable case of a woman who had "been sick from stomach trouble three months," and who was relieved during a "coughing fit" of a snake eight inches long. The paper says that "Dr. —— —— is the attending physician. He says Mrs. Smith probably swallowed a snake's egg while drinking water." Our correspondent asks: "Is it not time that such stories should cease? Or at any rate, the time has certainly come when physicians' names should not be published giving credence to such a physiologic impossibility as that of a snake's egg hatching inside a living stomach.

ANSWER.—It is never safe to charge up against a brother physician anything that a newspaper may charge him with doing or saying until the story has been reliably confirmed. White is often changed to black and yes to no in passing over the gossiping tongues of ignorant persons. On the other hand, in the case our correspondent submits, it might very well be that someone in this way is settling a grudge against the victimized doctor. As newspaper editors and physicians advance in educational attainments such instances will become rarer.

FEES OF ATTENDING PHYSICIAN AND CONSULTANTS WHO OPERATE.

——, August 1, 1905.

To the Editor:—I would like very much to have your decision in the following case: Dr. A. was called to see a case, and after careful examination pronounced it a severe case of appendicitis, and advised immediate operation. The family agreed, but desired consultation. Dr. B. was called in and agreed with the diagnosis. The family, however, insisted that Dr. B. should do the operation. Dr. A. agreed and assisted in the operation. The question now arises, is not Dr. A. entitled to the same compensation as Dr. B., Dr. A. having made the diagnosis and having assisted in the operation, and having treated the case until recovered?

ANSWER.—This query has to be divided. (1) So far as concerns the relative claims of Dr. A. and Dr. B., misunderstanding and friction can only be avoided by frank agreement, preferably in advance, between the physicians and the person who is to pay the bills. Each such case must be settled on its merits by those interested. In the present instance, if it is the patient who refuses properly to recompense Dr. A., let Dr. A. and Dr. B. together agree on proper fees, and in a friendly way lay the matter before the patient, if need be calling for help from the county medical society. If Dr. B. objects to Dr. A. charging an equal fee an impartial medical arbitrator should be asked to adjudicate the case. It is important to present a united front and to secure a good reasonable compensation for professional services. (2) How nearly equal in a given case shall be the fees of the operating surgeon and of the family physician who makes the diagnosis? Everywhere the profession is wrestling with this problem, but no universally applicable solution has yet been propounded. Perhaps the internist and the surgeon never will quite agree, but for the good of the guild they must seem to. There is a strong and growing sentiment that favors a fee for the family physician commensurate with that of the surgeon whom he calls. A few internists already are able to maintain this position, but the public is not yet generally sympathetic. It is this demand that has led some to adopt that wretched makeshift—the wholly immortal secret division of the surgeon's fee. Direct dealing must and will prevail. Dr. A. and Dr. B. should be members of their county medical society, and they and their society should face the question, deciding on the approximate solution that is locally most applicable.

Association News

Official Minutes of the Sections.

The following are the official minutes of the Section on Stomatology, the Section on Laryngology and Otology, and of the Section on Pharmacology and Therapeutics at the Portland Session, July 11-14, 1905. The minutes of the other sections were printed July 29. The minutes of the House of Delegates and of the General Meetings were printed July 22.

Section on Stomatology.

TUESDAY, JULY 11—AFTERNOON.

The Section was called to order at 2:40 p. m. by the Chairman, Dr. Vida A. Latham, Chicago.

The report of the Secretary was read.

Drs. Marshall and Schamberg were appointed to take the places of Drs. Peck and Eames on the Executive Committee.

The address of the chairman was then delivered by Dr. Latham on "The Relationship of the Oral Cavity to Medicine and Surgery." Discussed by Drs. Rhein, Talbot, Schamberg, Platt, Marshall, Brown and Latham.

The next order was a symposium on dental education. The following papers were read:

"A Common Ground for Medicine and Dentistry," by Frank L. Platt, San Francisco.

"The Physician as a Dentist," by Calvin W. Knowles, San Francisco.

"The Physician's Duty to the Child from a Dental Standpoint," by Alice M. Steeves, Boston.

"The Medical Relations of Certain Conditions of the Mouth," by L. Duncan Bulkley, New York City.

These four papers were discussed by Drs. Latham, Schamberg, Brown and Rhein.

Dr. M. L. Rhein of New York offered resolutions, to be laid before the House of Delegates, as to abolishing the contract surgeon in the Army. (These resolutions appear in full in THE JOURNAL, July 22, page 280.)

Dr. Brown moved that the resolutions be concurred in by the Section on Stomatology, and referred to the secretary of the Section to send to the House of Delegates if thought best.

This motion was seconded by Dr. Baldwin and discussed by Drs. Baldwin, Brown, Talbot, Schamberg and Rhein. Carried.

Committee on Nominations was appointed, consisting of Dr. G. V. I. Brown, Dr. M. I. Schamberg and Dr. F. L. Platt, to report Thursday.

WEDNESDAY, JULY 12—AFTERNOON.

Section was called to order at 2:18 p. m. by the chairman.

"Dentistry of To-morrow," by H. P. Carlton, San Francisco.

"What Will Probably Be the Dental Educational Standard for the Coming Decade," by Dr. C. C. Chittenden, Madison, Wis.

These two papers were discussed by Drs. Platt, Rhein, Levings, Schamberg, Brown and Carlton.

"Surgical Bacteriology of the Mouth," by Dr. A. H. Levings, Milwaukee, Wis. Discussed by Drs. Marshall, Brown, Schamberg, Rhein, Latham, Carlton and Levings.

"The Treatment of Suppurative Affections of the Face and Neck, Emanating from the Mouth," by Dr. M. I. Schamberg, Philadelphia. Discussed by Drs. Marshall, Brown, Levings, Rhein, Latham and Schamberg.

"The Etiology of Tooth and Nail Corrugations," by Dr. G. Lenox Curtis, New York. Discussed by Drs. Fletcher, Talbot, Schamberg, Marshall and Curtis.

THURSDAY, JULY 13—MORNING.

The Section was called to order at 10 a. m. by the chairman.

"To What Extent Are Teeth Necessary to the Human Being," by Dr. M. H. Fletcher, Cincinnati. Discussed by Drs. Talbot, Platt, Brown, Schamberg, Baldwin, Rhein and Latham.

"Fatal Oral Pathologic Conditions," by Dr. G. V. I. Brown, Milwaukee, Wis.

"Surgical Aspects of Disturbed Dentition of the Third Molar," by Dr. M. L. Rhein, New York City.

These two papers were discussed by Drs. Talbot, Schamberg, Platt, Marshall, Brown and Rhein.

THURSDAY, JULY 13—AFTERNOON.

A paper entitled "The Ossification of the Lower Jaw," by Edward Fawcett, Bristol, England, was read.

On motion a vote of thanks was extended to Dr. Fawcett for his excellent paper.

"Ankylostomiasis and Tongue Pigment," by Dr. T. M. Russell Leonard, Grenada, British West Indies. Discussed by Drs. Latham and Talbot.

"Tooth Genesis in Man," by H. W. Marett Tims, London, Eng.

"The Roentgen Rays in Dentistry," by Dr. M. Kassabian, Philadelphia.

"The Oral Manifestation of Diabetes Mellitus," by Dr. Herman Prinz, St. Louis.

The report of the Committee on Nominations was presented as follows: Chairman, C. F. Allen, Newburgh, N. Y.; vice-chairman, H. P. Carlton, San Francisco; secretary, Eugene S. Talbot, Chicago; member of House of Delegates, A. E. Baldwin, Chicago. On motion the report was adopted.

On motion the Section then adjourned *sine die*.

Section on Laryngology and Otology.

TUESDAY, JULY 11.

The Section was called to order at 2:20 p. m.

Chairman's address, Robert C. Myles, New York.

"The Treatment of Empyemata of the Maxillary Antrum Through the Nose," George L. Richards, Fall River, Mass. Discussed by Drs. Otto T. Freer, Chicago; Frank W. Hilscher, Spokane; G. P. Pond, San Francisco; L. C. Cline, Indianapolis; C. F. Welty, San Francisco; W. S. Anderson, Detroit; S. L. Ledbetter Birmingham; A. G. Greenstreet, Seattle; A. DeVilbiss, Toledo; J. H. Martindale, Los Angeles; Robert C. Myles, New York, and George L. Richards.

"Collodium as a Dressing After Intranasal Operations (A Preventive of Postoperative Hemorrhages)". With demonstrations. Kaspar Pischel, San Francisco. Discussed by Drs. George L. Richards, Fall River, Mass.; W. S. Anderson, Detroit; C. F. Welty, San Francisco; Frank W. Hilscher, Spokane; A. A. Green, Anniston, Ala.; Otto T. Freer, Chicago; H. Foster, Kansas City; Robert C. Myles, New York, and Kaspar Pischel.

Dr. Kaspar Pischel, San Francisco, moved that the chairmen of the Sections on Ophthalmology and on Laryngology and Otology be asked to arrange the meetings of the sections so that they will not interfere with each other, in order that the members may attend both sections. The motion was seconded, and was discussed by Drs. A. A. Greene, A. DeVilbiss, R. C. Myles, K. Pischel and L. C. Cline. The motion was then laid on the table.

Dr George L. Richards, Fall River, Mass., presented the following resolution and moved its adoption:

Resolved, That the Section on Laryngology and Otology requests the House of Delegates to make arrangements to have the members of sections present at sessions of the A. M. A. receive the bound volumes of the transactions of their respective sections without the charge of $1.00 heretofore collected, and that said transactions be delivered to such members.

The motion was seconded, unanimously carried and referred to the House of Delegates. (See THE JOURNAL, July 22, page 285.)

On motion, it was decided to omit the annual smoker and dinner of the section.

WEDNESDAY, JULY 12—MORNING.

"A Demonstration of the Window Resection Method of the Correction of Deflections of the Nasal Septum," O. T. Freer, Chicago. Discussed by Drs. W. S. Anderson, Detroit, Mich.; Hill Hastings, Los Angeles; George L. Richards, Fall River, Mass.; George F. Cott, Buffalo, N. Y.; G. P. Pond, San Francisco; L. A. Leland, Boston; A. A. Greene, Anniston, Ala.; A. DeVilbiss, Toledo, Ohio; J. F. Barnhill, Indianapolis; Robert C. Myles, New York, and Dr. Freer.

The Nominating Committee, through Dr. George L. Richards, reported the following nominations: Chairman, O. T. Freer, Chicago; Secretary, W. S. Bryant, New York; Delegate, R. C. Myles, New York.

WEDNESDAY, JULY 12—AFTERNOON.

"The Correction of Saddle Nose by Bone Implantation," Cullen F. Welty, San Francisco. Discussed by Drs. W. S. Anderson, Detroit, Mich.; O. T. Freer, Chicago; Hal Foster, Kansas City, Mo.; W. W. Pennell, Mt. Vernon, Ohio; Robert C. Myles, New York, and Dr. Welty.

"Capital Operations for the Cure of Tinnitus Aurium," W. S. Bryant, New York. Discussed by Dr. J. F. Barnhill, Indianapolis.

"Diagnosis of the Intracranial Complications Due to the Middle Ear Suppurations," John F. Barnhill, Indianapolis.

"Four Cases of Mastoid Operations Without Opening the Antrum; Recovery. A Fifth, Periostitis Only, and a Sixth, Destruction of Inner Table of Skull. George F. Cott, Buffalo.

These two papers were discussed by Drs. George L. Richards, Fall River, Mass.; Hill Hastings, Los Angeles; Cullen F. Welty, San Francisco; A. DeVilbiss, Toledo; Kaspar Pischel, San Francisco; Frank W. Hilscher, Spokane; W. W. Murphy, Los Angeles;

G. P. Pond, San Francisco; L. A. Leland, Boston; S. L. Ledbetter, Birmingham, Ala.; Robert C. Myles, New York, and Drs. Barnhill and Cott.

THURSDAY, JULY 13—MORNING.

"Two Cases of Sinus Thrombosis, with Masked Symptoms; Mastoid Operation; One Death; One Recovery," Hill Hastings, Los Angeles, Cal. Discussed by Drs. George L. Richards, Fall River, Mass.; George F. Cott, Buffalo, N. Y.; Cullen F. Welty, San Francisco; W. H. Roberts, Pasadena, Cal.; H. Stillson, Seattle; L. A. Leland, Boston; W. W. Murphy, Los Angeles; John F. Barnhill, Indianapolis; Robert C. Myles, New York, and Dr. Foster.

"Exhibition of a New Tonsillotome," Edwin E. Straw, Marshfield, Ore. Discussed by Drs. Robert C. Myles, New York; L. C. Cline, Indianapolis, and John F. Barnhill, Indianapolis.

It was moved by Dr. George L. Richards, Fall River, Mass., and seconded by Dr. John F. Barnhill, Indianapolis, that the report of the Committee on Nominations be accepted and acted on by ballot. Carried unanimously. On motion of Dr. A. DeVilbiss, Toledo, and duly seconded, the ballot was cast by Dr. George L. Richards, and the following were declared the officers for the Section for the ensuing year: Chairman, Otto T. Freer, Chicago; Secretary, W. S. Bryant, New York; Executive Committee, George L. Richards, Fall River, Mass.; John F. Barnhill, Indianapolis, and Robert C. Myles, New York.

Section on Pharmacology and Therapeutics.

TUESDAY, JULY 11.—AFTERNOON.

Section called to order at 2:30 p. m. by the Chairman, Dr.. Heinrich Stern, New York City.

The Chairman's Address was read. Discussed by Drs. Cottel, Lewis, Kelly and Stern.

It was announced that Dr. Homer I. Keeney had been appointed by the local committee as the member to look after the comfort of visiting members.

Certificate of credentials was presented from American Pharmaceutical Association.

Drs. William C. Wescott, Atlantic City, N. J., and Charles O. Jones, Osceola, Mo., on application, were elected to membership.

Report of Committee on Proprietary Medicines was read by the Secretary. Discussed by Drs. Waugh, Reilly, Chamberlin and Cottel.

Report of Committee to Aid Postoffice Department in Excluding Objectionable Advertisements was read by the Secretary. Dr. Lewis moved that a committee of three be appointed to consider these reports, to accept them, and to draw up resolutions founded on their recommendations, submitting them to the Section for approval as a whole. Seconded and carried.

Drs. Lewis, Chamberlin, and Waugh were appointed as such a committee.

Dr. Chamberlin offered the following resolution:

Resolved, That Section 1, Chapter 1, Book 1, of the By-Laws, be amended so as to read: "A member in good standing of the association of the state in which he resides, who is not in any manner connected with the business of manufacturing pharmacy, or a medical officer of the U. S. Army, of the U. S. Navy, or of the U. S. Public Health and Marine-Hospital Service, may become a member of the American Medical Association by presenting to the general secretary (1) satisfactory evidence of one of the above qualifications; (2) written application for membership on the prescribed form, and (3) the annual dues."

Dr. Chamberlin moved that the representative of the Section on Pharmacology and Therapeutics in the House of Delegates be directed to offer the resolution at the next meeting of the House of Delegates. Seconded.

After discussion by Drs. Lewis, Frick, and the Secretary, and a few remarks by the Chairman, Dr. Chamberlin withdrew his motion, and after further remarks by the Secretary, requested to have his motion reinstated. No vote was taken, however.

None of the Executive Committee being present, Drs. Waugh, Dickinson and Reilly were appointed an Executive Committee *pro tem.*

The Secretary offered the following resolution, and moved that the Delegate to the House of Delegates be directed to present it before that body:

Resolved, That Book 4, Chapter 2, Section 12, be amended so as to read: "Before only two (instead of one) sections at any annual session."

Motion seconded and carried.

WEDNESDAY, JULY 12.—MORNING.

The Section was called to order at 9.30.

The Chairman appointed as a Nominating Committee Drs. J. V. Kelly, John T. Nagle and H. E. Lewis.

Dr. Bryant read a paper entitled "Common-sense Nasal Therapeutics." Discussed by Drs. Reilly, Waugh, Lewis and Bryant.

Dr. Daniel R. Brower of Chicago read a paper on "Therapeutics of Neuritis." Discussed by Drs. Stern, Lewis, Jones and Brower.

Dr. Chamberlin moved that the delegate be instructed to work with the utmost earnestness for the restoration of the title of this Section as the Section on Pharmacology and Therapeutics. Seconded by Dr. Waugh. Discussed by the Secretary and the Chairman, after which the motion was put and carried.

Dr. Ashley read a paper entitled "Therapeutics of Flat-foot." Discussed by Drs. Reilly, Brower, Lewis, Abbott, Cottel, Waugh, Foss and Ashley.

Dr. Thomas F. Reilly of New York City read a paper on the "Therapeutics of Lupulin." Discussed by Drs. Abbott, Foss, Waugh, Stern, Hallberg and Reilly.

Dr. William F. Waugh, Chicago, read a paper entitled "Arbutin." Discussed by Drs. Hallberg, Foss, Abbott, Cottel, Stern, and Waugh.

Dr. Waugh took the chair, and Dr. Stern read a paper entitled "Sixteen Years' Experience with Formic Acid as a Therapeutic Agent," which was discussed by Drs. Abbott, Reilly, Hallberg, Waugh, and Stern.

The Secretary announced the meeting this afternoon of the Pharmaceutical Congress at the Lewis and Clark Exposition.

An invitation was read from the British Columbia Medical Association.

The Secretary announced that printed copies of the Transactions of the Section could be procured for $1.00, provided seventy-five were ordered in advance.

THURSDAY, JULY 13.—AFTERNOON.

The session was called to order at 2:30, by Chairman Stern.

The Nominating Committee reported in favor of Dr. Thomas F. Reilly, New York, for Chairman; Dr. William Frick, Kansas City, Mo., Vice-Chairman; Dr. C. S. N. Hallberg, Secretary; Dr. Heinrich Stern, Delegate. Ballots were cast and the nominees elected.

Dr. Albert Schneider, San Francisco, read a paper entitled "Uncertain Origin of Many Drugs." Discussed by Drs. Wahrer, Calvin and McDonnell.

Dr. William M. Searby, San Francisco, read a paper on "The U. S. Pharmacopeia—Its Functions."

Dr. C. S. N. Hallberg, Chicago, read a paper entitled "The U. S. Pharmacopeia—Advance in Pharmacy."

Dr. Chamberlain moved that Dr. Abbott read Dr. Tracy's paper, in Dr. Tracy's unavoidable absence. Dr. Abbott read as requested.

These three papers were discussed by Drs. Chamberlain, Lewis, Calvin, Abbott, Stern, Schneider, Searby, and Hallberg.

Dr. H. E. Lewis read a paper on the "Etiologic and Therapeutic Relation of the Pancreas in the Development of Tuberculosis." Discussed by Drs. Foss, Abbott, Searby, Stern and Lewis.

Report of the Committee on Resolutions was read by Dr. Lewis, who presented resolutions:

Resolved, That it is the sense of the Section on Pharmacology and Therapeutics that all proprietary products should have titles as nearly descriptive as possible of their active constituents or elementary composition; and that, while we deplore the present necessity of trade names and titles, we recognize that the evils of substitution are so prevalent that in the interests of honest progressive pharmacy the use of such names and titles can not be avoided. It is, however, the further opinion of this Section that many, if not all, of the objectionable features of proprietary products can be eliminated, first, by the use in connection with the trade name, of some subtitle which will express in scientific terms the nature and character of its composition; and second, by the use on the label or in the disseminated literature, of a descriptive formula which will exhibit the character and proportions of the active constituents.

WHEREAS, The U. S. Pharmacopeia has established standards of nomenclature and orthography which appeal to science and scientific methods: therefore be it

Resolved, That the Section on Pharmacology and Therapeutics respectfully urges the desirability of the American Medical Association accepting the U. S. Pharmacopeia as the standard of nomenclature and orthography in all its transactions and publications.

WHEREAS, The Postmaster-General of the United States and the Secretary of Agriculture are making laudable efforts to restrict or to exclude all obnoxious, fraudulent and dangerous substances from the United States mail: and

WHEREAS, These efforts are nullified to a certain extent by abstruse or incomplete laws, or misunderstanding in their interpretation; therefore, be it

Resolved, That the Section on Pharmacology and Therapeutics of the American Medical Association extend to the Postmaster-General and the Secretary of Agriculture our sincere appreciation of their efforts in behalf of honest pharmacy and assure them that this Section is in accord with their methods and objects; and be it

Resolved, That the Section on Pharmacology and Therapeutics of the American Medical Association emphasize to our legislators and postoffice authorities the necessity of denying to every fraudulent and dishonest firm the use and privileges of the United States mails in every way and particular; and further be it

Resolved, That the Section on Pharmacology and Therapeutics of the American Medical Association urge on the postoffice authorities the desirability of a proper regulation for the protection of the people which will make necessary the proper and plain labeling of all poisonous tablets, powders or other substances before admitting the same to the privileges of the United States mails.

H. EDWIN LEWIS,
C. S. CHAMBERLIN,
W. F. WAUGH.

Dr. Foss moved that the resolutions presented be adopted.

Discussed by Drs. Abbott, Foss, Lewis, Hallberg.

Motion carried.

Dr. Lewis moved that the Secretary of the Section submit to the Board of Trustees the matter concerning *ovoferrin*, asking them to investigate it and the position of Dr. Robinson with reference to it.

Discussed by Drs. Lewis, Abbott, Chamberlain and Hallberg, and motion carried.

Dr. Foss reported the proceedings of the House of Delegates relating to this Section.

A vote of thanks was extended to the retiring Chairman, Dr. Stern.

PORTLAND REGISTRATION.

List of Members, Associate Members and Guests Who Registered at Portland, Oregon.

The total registration at the Portland session was 1,678. We print below the names and addresses of the members, associate members and guests who registered. The names that are starred are of guests. Preceding the names are two summaries: one giving the registration by states and one by sections. In the latter are mentioned "Miscellaneous, 100." This includes those who have not yet forwarded credentials for membership. These are, therefore, not listed by name and are not counted in the summary by states.

REGISTRATION BY SECTIONS.

Practice of Medicine	494
Obstetrics and Diseases of Women	168
Surgery and Anatomy	443
Hygiene and Sanitary Science	48

Ophthalmology	105
Diseases of Children	46
Stomatology	23
Nervous and Mental Diseases	58
Cutaneous Medicine and Surgery	32
Laryngology and Otology	34
Materia Medica, Pharmacy and Therapeutics	26
Pathology and Physiology	18
Registered without specifying any particular section	82
Miscellaneous	97
Total	1,678

REGISTRATION BY STATES.

Alabama	8	Nebraska	20
Arizona	6	New Hampshire	1
Arkansas	9	New Jersey	12
California	164	New Mexico	5
Colorado	32	New York	50
Connecticut	10	Nevada	3
District of Columbia	9	North Carolina	1
Florida	1	North Dakota	10
Georgia	4	Ohio	60
Hawaii	2	Oklahoma	3
Idaho	31	Oregon	217
Illinois	123	Pennsylvania	98
Indiana	58	Philippine Islands	1
Iowa	85	South Carolina	3
Kansas	18	South Dakota	16
Kentucky	29	Tennessee	19
Louisiana	7	Texas	14
Maine	2	Utah	26
Maryland	12	Vermont	4
Mexico	1	Virginia	9
Massachusetts	30	Washington	156
Michigan	33	West Virginia	7
Minnesota	51	Wisconsin	39
Mississippi	7	Wyoming	5
Missouri	40	Foreign	6
Montana	20		

Section on Practice of Medicine.

Abbott, W. C., Chicago.
Abraham, Henry, San Francisco.
Adair, B. A. Owens, N. Yakima, Wash.
Adams, Ben O., Eaton, Ind.
Aldrich, J. F., Shenandoah, Ia.
Alguire, Annie, Belvidere, Ill.
Allen, J. Q., Montrose Colo.
Allen, M. K., Louisville, Ky.
Allen, Ulamor, Jersey City, N. J.
Alley John Newton, Lapwai, Ida.
Amesse, J. W., Seattle, Wash.
Amerland, J. H., St. Louis, Mo.
Anders, Jas. M., Philadelphia.
Anderson, W. E., Farmville, Va.
Arnelli, James R., Denver, Colo.
Atkins, W. Edwin, Pilot Point, Tex.
Austin, M. O., San Francisco.
Austin, M. B., Brunswick, Mo.
Bailey, Aug. B., Hillsboro, Ore.
Bailey, F. A., Hillsboro, Ore.
Bailey, F. J., Hillsboro, Ore.
Baker, Eugene, Ithaca, N. Y.
Baker, N. M., Spokane, Wash.
Ball, W. A., Box, O. T.
Bartley, James H., Lillah, Wash.
Barnett, Benj. M., Rosedale, Kan.
Barber, John R., Portland, Ore.
Bartle, Ira B., Eugene, Ore.
Becknell, I. J., Goshen, Ind.
Beck J. S., Dayton, Ohio.
Beckley, Auburt L., Portland, Ore.
Bell, James F., Portland, Ore.
Bennett, W. C., Mt. Gilead, Ohio.
Berry, R. D., Springfield, Ill.
Bertola, Mariano, San Francisco.
Bevier, A. B., Ridgway, Pa.
Bickford, Ernest L., Seattle, Wash.
Biggers, George Lee, La Grande, Ore.
Bierring, Walter L., Iowa City, Ia.
Biles, J. D., Sumner, Miss.
Billings, Frank, Chicago.
Bird, Maurice Duane, Marinette, Wis.
Binswanger, Otto S., Portland, Ore.
Black, F. W., Ligonier, Ind.
Black, J. T., Elroy, Texas.
Blumer, George, San Francisco.
Boehm, J. C., St. Cloud, Minn.
Bond, J. L., Ukrah, Cal.
Bonnet, C. A., Columbus, Ohio.
Booth, John R., Seattle, Wash.
Bower, W. C., Lebanon, Kan.
Bourland, I. N., Equality, Ill.
Bower, Albert S., Salt Lake, Utah.
Bozovsky, Vacil D., Dunkirk, N. Y.
Brable F. J., Perham, Minn.
Brewster, Mary J., Northampton, Mass.
Brill, James H., Indianapolis.
Bridges, W. O., Omaha, Neb.
Brill, William, Los Angeles Cal.
Briggs, Solon, Pasadena, Cal.
Brodie, Benj. P., Detroit, Mich.
Brown, S. J., Panora, Iowa.
Brobeck, A. L. Hoopeston, Ill.
Brown, George J., Smith River, Cal.
Brown, John R., Tacoma, Wash.
Brown, Otis S., Warren, Pa.
Brown, Philip King, San Francisco.
Bumgarner, Chas. S., Thornton, Wash.
Bundy, A. D., Osage, Iowa.
Burnham, F. R., San Diego, Cal.
Burkhart, E. J., Johnstown, Pa.
Butler, Clarence A., Dell Rapids, S. D.
Buxton, W. E. Samsville, Ill.
Cabot, Richard C., Boston, Mass.
Cable, E. E., Portland, Ore.
Campbell, A. D., Cleveland, Ohio.
Campbell, Geo. R., Augusta, Me.
Campbell, E. R., Bellows Falls, Vt.
Carter, J. M. G., Waukegan, Ill.
Carter, J. A., Knox, N. D.
Candwell, Wm. Clay, Pomeroy, Wash.
Caywood, J. Robt., Piqua, Ohio.
Cheney, Wm. Fitch, San Francisco.
Chittick, W. R., Detroit, Mich.
Chisholm, Jas., Everett, Wash.
Chilton, L. W., Canyon City, Ore.
Chipman, R. J., Portland, Ore.
Christopher, W. H., London, O.
Christensen, F. A., Lake Mills, Iowa.
Clarke, Robt. C., Pittsburg, Pa.
Claybaugh, W. R., Litchville, N. D.
Clouchek, H. W., Twin Falls, Idaho.
Coblelgh, E. A., Chattanooga, Tenn.
Coberly, Lee J., Garfield Wash.
Coe, T. D., Keithsburg, Ill.
Coleman, Thos. D., Augusta, Ga.
Conner, F. H., Nevada, Iowa.
Cooper, J. A., Terre Haute, Ind.
Cooper, Charles Miner, San Francisco.
Cornelius, C. W., Portland, Ore.
Cox, A. J., Tyler, Minn.
Crain, F. M., Redfield, S. D.
Crawford, Alex., Mt. Vernon, Ia.
Craig, R. W., Phoenix, Ariz.
Criley, Benton H., DallasCenter, Iowa.
Crockett, E. N., Portland, Ore.
Cronk, Clara L. K., Bloomfield, Iowa.
Cronk, C. H., Bloomfield, Iowa.
Cunnane, Thomas Edward, Ventura, Cal.
Curtis, E. E., Saginaw, Mich.
Davis, S. F., Pomona, Cal.
Davenport, Geo. E. Lisbon, N. H.
Davidson, Chas. H., Lexington, Va.
De Armond, R. S. Grant's Pass, Ore.
Dickson, W. L., Shreveport, La.
Dittmer, E. G., Manchester, Ia.
Dittmer, H. A., Manchester, Ia.
Doane, O. D., The Dalles, Ore.
Dock, George, Ann Arbor, Mich.
Dodin, Henry A., New York.
Douglas, G. H., Grant's Pass. Ore.
Dunlap, W. O., Sedalia, Mo.
Dutton, C. L., Meridian, Idaho.
Dwelle, E. H., Northwood, Iowa.
Eaton, Geo. Lee, San Francisco.
Eberlin, Edward A.,, Glenwood, Minn.
Ellenberger, J. Wesley, Harrisburg, Pa.
Emerson, Charles P., Baltimore, Md.
Emery, Chas. H., Bedford, Ind.
Epler, E. G., Fort Smith, Ark.
Ewing, A. C., Salt Lake, Utah.
Ewin, W. H., Union, Ore.
Eyestone, Al. G., Gibsonburg, O.
Falk, Frederick, Seattle, Wash.
Farra, G. R., Corvallis, Ore.
Fawcett, C. E., Stewartsville, Minn.
Felch, H. J., Ellensburg, Wash.
Ferguson, Albert D., Philadelphia.
Fessler, Theo., Portland, Ore.
Finch, Arthur A., Astoria, Ore.
Findley, Joseph D., Altoona, Pa.
Finley, George W., Brazil, Ind.
Fisher, E. E., Rodney, Iowa.
Flower, D., Monticello, Wis.
Foster, W. S., Pittsburg, Pa.
Francine, Albert A., Philadelphia.
Frankenheimer, Jule B., San Francisco.
French James M., San Diego, Cal.
Freeland, J. L., Indianapolis.
Frederick, W., Pittsburg, Pa.
Fried, M., Portland, Ore.
Frink, O. G., South Shore, S. D.
Fronfield, J. Warren, Media, Pa.
Fussell, M. Howard, Philadelphia.
Gable, Isaac C., York, Pa.
Gallion, T. W., Davisville, Cal.
Gardner, F. P., Seattle, Wash.
Gashwiler, J. Schooling, Novinger, Mo.
Geisendorffer, John A., The Dalles, Ore.
Gibson, W. E., Issaquah, Wash.
Gillespie, J. F., Reelsville, Ind.
Glass, Jos. H., South Fork, Pa.
Grandy, Charles R., Norfolk, Va.
Graham, Christopher, Rochester, Minn.
Gray, Geo. A., Spokane, Wash.
Green, Jas. H., North Vernon, Ind.
Greene, H. M., La Crosse, Wash.
Greenley, T. B., Meadowlawn,
Gregg, Grant W., Wallowa, Ore.
Gross, C. C., Yankton, S. D.
Gue, John W., Mackay, Idaho.
Gullette, Fred., Portland, Ore.
Hall, J. F., Albion, Wash.
Hall J. N., Denver, Colo.
Hall, O. W., Star, Idaho.
Hall, Joseph E., Clateskamie, Ore.
Halsey, L. M., Williamstown, N. J.
Hall, John R., Marshall, Mo.
Hamilton, N. H., Santa Monica, Cal.
Hamilton, George, La Jara, Colo.
Hammond, Schuyler W., Rutland, Vt.
Hammond, E. D., Salt Lake, Utah.
Hamilton, W. B., Portland, Ore.
Hamilton, J. H., Union, S. C.
Hapgood, L. P., Pittsburg, Pa.
Happel, T. J., Trenton, Tenn.
Harris, J. W., Eugene, Ore.
Harrison, Isaac M., Seattle, Wash.
Harlow, Wm. Page, Boulder, Colo.
Harris, T. W., Eugene, Ore.
Harvey, L. J., Griggsville, Ill.
Hartman, Frank T., Waterloo, Iowa.
Hawes, S. A., Greenville, Ohio.
Hawk, J. W., Green River, Wyo.
Haynes, John R., Los Angeles, Cal.
Heacock, Joseph D., Birmingham, Ala.
Henderson, S. A., Bells, Tenn.
Heussy, Wm. C., Seattle, Wash.
Hicks, Grant S. Tacoma, Wash.
Higgs, A. K., Heppner, Ore.
Hill, Chas. E., Portland, Ore.
Hilliker, J. B., Grand Rapids, Mich.
Hiner, S. R., Lima, Ohio.
Hockett, Clyde T., Cottage Grove, Ore.
Holland, P. C., Bloomington, Ind.
Hollingshead, E., Pemberton, N.J.
Horrell, C. B., Galesburg, Ill.
Hood, C. J., Elko, Nev.
Howard, William F., Pocatello, Idaho.
Howe, Gadsden E., La Conner, Wash.
House, Charles F., Painesville, O.
Hudson, S. E., Austin, Texas.
Hughes, Helen, Mankato, Minn.
Hull, F. C., Carlisle, Iowa.
Humfreville, D. W., Waterville, Kan.
Humphrey, T. C., Portland, Ore.
Hunter, W. W., Monticello, Iowa.
Hurd, Edward F., New York.
Hutchinson, Woods, Redlands, Cal.
Imrie, Andrew W., Detroit, Mich.
James, Charles, Tekoa, Wash.
Johnson, J. H., Los Angeles, Cal.
Johnson, S. H., Bellingham, Wash.
Johnston, Walter, Seattle, Wash.
Johnson, O. B., Lizton, Ind.
Jones, Louis H., Wall Lake, Ia.
Jonsson, Christian, Clinton, Ia.
Jones, Chas. H., Tempe, Ariz.
Jones, Philo E., Salt Lake, Utah.
Jump, David W., Plainfield, Ill.
Kalb, C. S., Spokane, Wash.
Kane, Alfred, Fort Wayne, Ind.
Kee, Albert L., Holbrook, Neb.
Kelly, Richmond, Portland, Ore.
Keyes, C. R., Duluth, Minn.
King, Jos. M., Los Angeles, Cal.
Kincaid, J. W., Collettsburg, Ky.
King, Alfred E., Antelope, Ore.
Kimmell, J. A., Findlay, Ohio.
Kime, J. H., Alton, Cal.
Kinnear, C. H., Tacoma, Wash.
Kistner, Frank B., Heppner, Ore.
Knott, John M., Sioux City, Ia.
Lang, A. A. J., Sanborn, N. D.
Langham, J. B., Seattle, Wash.
Lankford, J. S., San Antonio, Texas.
Lawhead, H. D., Woodland, Cal.
Lawry, O. J., Redding, Cal.
Lazier, Donald C., Arlington, Ore.
Leroy, Louis, Nashville, Tenn.
Leuty, Jos. D., Farmington, Wash.
Lichty, Daniel, Rockford, Ill.
Lichty, J. A., Pittsburg, Pa.
Linn, E. C., Monmouth, Ill.
Linklater, S. T., Hillsboro, Ore.
Litchfield, Lawrence, Pittsburg, Pa.
Livingston, G. M., Manistique, Mich.
Love, L. L., Tacoma, Wash.
Lukens, George S., Conshohocken, Pa.
Lynch, C. J., N. Yakima, Wash.
McCallum, J. A., Arkadelphia, Ark.
McCarroll, Wm., Pontiac, Mich.
McCaskey, G. W., Ft. Wayne, Ind.
McClendon, E. F., Galveston, Tex.
McCormac, J. T., Marshfield, Ore.
McCreery, William B., Tacoma, Wash.
McCrimmon, F. W., Butte, Mont.
McCutcheon, Charles, Tacoma, Wash.
McDougal, L. E., Eugene, Ore.
McKibben, A., Pittsburg, Pa.
Macdonald, A., Morristown, Minn.
Mackey, Chas. W., Portland, Ind.
Maclay, A. I., Delavan, Ill.
MacDowell, G. A., Chicago.
MacRae, John, Calumet, Mich.
Magruder, W. E., Sandy Springs P. O., Md.
Maguire, Edw., Pullman, Wash.
Main, R. H., Barry Ill.
Manges, Morris, New York.
Martin, William B., Sherrard, Ill.
Martin, E. T., Keyser, W. Va.
Martin, C. M., Bellevue, Wash.
Marvel, Philip, Atlantic City N J.
Marcy, Alex., Jr., Riverton. N. J.
Markley, L. R., Bellingham. Wash.
Mason, H. P., Wilton Junction, Iowa.
Maxwell, Allison, Indianapolis.
Maytum, W. J., Alexandria, S. D.
Mayer, Nathan, Hartford, Conn.
Mead, Chauncey A., Everett, Wash.
Miller, A. Merrill, Danville, Ill.
Miller, Wm. Preston, Hagerstown, Md.
Miller, Joseph L., Chicago.
Milnamow, J. T., Chicago.
Miller, Walter J., Johnson City, Tenn.
Miller A. E. Metropolis, Ill.
Mitchell, Wm. W., Greenfield, Tenn.

Mitchell, E. L., Monmouth, Ill.
Mix, Charles Louis, Chicago.
Moffitt, Herbert C., San Francisco.
Molitor, W., La Grande, Ore.
Moore, Arthur W., Portland, Ore.
Moore, J. S., Portland, Ore.
Moore, N. W., Cynthiana, Ky.
Moore, Wm. G., St. Louis, Mo.
Morris, J. E., Liberty, Ind.
Moss, Willis R., Clinton, Ky.
Mount, Hugh A., Oregon City, Ore.
Murphy, Frank J., Sioux City, Iowa.
Murphy, Franklin E., Kansas City, Mo.
Murray, Joseph H., Nampa, Idaho.
Musgrave, W. E., Manila, P. I.
Musser, John Herr, Philadelphia.
Nadeau, A. T., Marinette, Wis.
Neilson, W. H., Milwaukee.
Neill, H., Sibley, Iowa.
Newth, C. H., Philomath, Ore.
Nippert, Louis A., Minneapolis.
Nooy, C. D. Ver, Cortland, N. Y.
Noothnagel, Chas. F., Minneapolis, Minn.
Nourse, Robert Lee, Hailey, Idaho.
Nye, H. W., Lovilia, Iowa.
Oettiker, James, Platteville, Wis.
Ogden, Chester R., Clarksburg, W. Va.
Olmsted, Elmer d. Vando, Spokane, Wash.
Ophuls, W., San Francisco.
Ospvig, Peter L., Everett, Wash.
Oswald, B. Frank, Cleveland, O.
Parker, I. B., Grant's Pass, Ore.
Parker, Wm. Lockwood, Baker City, Ore.
Payton, J. E. Redland, Cal.
Pearce, Beatrice, Waukegan, Ill.
Pearson, M. L., Aberdeen, Wash.
Peirce, E. A., Salem, Ore.
Peterman, A. L., Parker, S. D.
Phenix, N. J., Colorado, Texas.
Phelps, Mary E., Canon City, Colo.
Pickett, Ira N., Odell, Neb.
Pierpoint, J. E., Skidmore, Mo.
Pigman, Garrett, Liberty, Ind.
Pile, O. F., Memphis, Mo.
Pogue, G. A., Ontario, Ore.
Pond, Henry May, Alameda, Cal.
Porter, David R., Kansas City, Mo.
Poska, Abraham, Utica, Mont.
Potter, L. A., Superior, Wis.
Powell, David, Marysville, Cal.
Prentice, F. W., Eugene, Ore.
Priestley, James Taggart, Des Moines, Iowa.
Prill, Albert G., Scio, Ore.
Randell, Geo. H., Seattle, Wash.
Rankin, John E., Gonzalez, Cal.
Rawlings, I. Donaldson, Chicago.
Reed, James D., Covina, Cal.
Rhodehamel, H. E., Spokane, Wash.
Rice, Chas., Smithland, Iowa.
Ricen, Leo, Portland, Ore.
Richardson, Jas. A., Salem, Ore.
Riddle, Julia, Oshkosh, Wis.
Riggs, John U., Bryan, Ohio.
Robinson, Wm. J., Portia, Ark.
Robison, M. A., Victor, Colo.
Robins, Morris C., Spokane, Wash.
Rodgers, Chas. W., Como, Tenn.
Rolls, James A., Watrous, N. M.
Root, Henry A., Toledo, Ohio.
Rosenberg, J. H., Primville, Ore.
Rover, H. W., Denver, Colo.
Ruge,, E. C., Shelton, Wash.
Russell, Montgomery, Seattle, Wash.
Ryan, Granville N., Des Moines, Iowa.
Rynning, J. L., Tacoma, Wash.
Sanders, S. F., Holdrege, Neb.
Sawyer, H. P., Goodhue, Minn.
Sawyer, Frank W., Castle Hot Springs, Ariz.
Scarborough, J. R., Clinton, Ky.
Schill, Francis, Jr., Johnstown, Pa.
Schifferle, Edward, Creston, Ia.
Schwuchow, W. B., Chicago.
Scofield, C. L., Benson, Minn.
Sears, Chas. E., Wallace, Idaho.
Semple, John M., Spokane, Wash.
Shaw, H. M., Ashland, Ore.
Sharpe, Frank M., Brooklyn.
Shattuck, Frederick C., Boston, Mass.
Sharp, Mila Belle, Madison, Wis.
Shaw, E. E., Walla Walla, Wash.
Shaw, Wm. F., Chihuahua, Mexico.*
Sheldon, Chas. S., Madison, Wis.
Sherman, Arthur M., Grinnell, Iowa.
Sikes, J. A. B., Iron City, Ga.
Simmons, C. B., Decatur, Texas.
Slater, H. H., Deer Park, Wash.
Sloan, Robert T., Kansas City, Mo.
Smith, D. G., Elizabeth, Ill.
Smith, Chas. J., Pendleton, Ore.
Smith, E. Franklin, New York.
Smith, I. F., Arlington, Ind.
Smyth, F. B., Bismarck, N. D.
Snook, W. H., Madras, Ore.
Snyder, F. J., York, Pa.
South, John, Ouray, Colo.
Spencer, Wm. O., Huntington, Ore.
Spitler, S. W., Wellington, Kan.
Squier, Marcus F., Harrison, N.J.
Stanton, T. P., Chariton, Iowa.
Stafford, E. A., Snohomish, Wash.
Stanton, John H., Chariton, Ia.
Stafford, A. A., Alameda, Cal.
Sleagall, Thos. R., Blackwell, Okla.
Stevens, Geo. M., Decorah, Ia.
Stewart, Chas. E., Battle Creek, Mich.
Stealy, A. R., Charlotte, Mich.
Stengel, Alfred, Philadelphia.
Stearns, Moses, Springdale, Ill.
Stephens, L. L., Monroe, Wash.
Stewart, Ewith W., Hume, N. Y.
Stine, Fred'k A., Newport, N. Y.
Stockton, Chas. G., Buffalo, N. Y.
Stockwell, Benj. E., St. Louis.
Stoddard, Chas. S., Santa Barbara, Cal.
Stookey, Walter M., Lehi, Utah.
Stover, C. J., Eaton, Ind.
Strohecker, S. M., Chicago.
Stranahan, J. O., Rome, N. Y.
Strouss, U. S., Beaver, Pa.
Stuart, J. H., Minneapolis, Minn.
Stuht, A. E., Colfax, Wash.
Sutton, J. E., Canton, Ill.
Swearingen, P. B., Tacoma, Wash.
Sweet, Carol Lincoln, Boise, Idaho.
Taggart, Edward J., Bremerton, Wash.
Taylor, J. L., Libertyville, Ill.
Taylor, Lewis C., Springfield, Ill.
Taylor, Frank M., Portland, Ore.
Teschan, R. C., Milwaukee.
Thompson, John R., Northville, S. D.
Thomas, F. W., Pomona, Cal.
Thometz, John J., Chicago.
Thornburg,, M. W., Redfield, Ia.
Tobias, A. W., Elwood, Ind.
Tolson, F. R., Lafayette, La.
Trimble, W. A., Albany, Ore.
Tripp, Geo. A., South Bend, Wash.
Troppmann, Chas. M., San Francisco.
True, Charles, Kankakee, Ill.
Trueworthy, John W., Los Angeles, Cal.
Turner, A. E., Neboville, Tenn.
Twitchell, Edward Sacramento, Cal.
Ussery, W. C., Paris, Ky.
Van Vechten, Ward B., Tacoma, Wash.
Visscher, Louis George, Los Angeles, Cal.
Wallace, J. P., Albany, Ore.
Walsh, Jas. J., New York.
Walston, Jno. S., Montesano, Wash.
Ward, M. W., Woodland, Cal.
Warne, R. C., Mitchell, S. D.
Washburn, W. E., Kewanee, Ill.
Waterhouse, G. M.,Welser, Idaho.
Watson, W. T., Lexington, Tenn.
Watt, J. F., Hood River, Ore.
Watkins, F. M., Wetmore, Kan.
Wayson, James T., Honolulu, Ter. of Hawaii.
Wells, J. E. Cynthiana, Ky.
Wells, W. B., Hoquiam, Wash.
Wells, Edward F., Chicago.
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Whitney, H. L., Plymouth, Pa.
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Thomas, Bert, Walla Walla, Wash.
Tipton, Wm. R., Las Vegas, N. M.
Townsend, Charles E., Newburg, N. Y.
Trevitt, A. W., Wausau, Wis.
Trommald, Edward Arbo, Tacoma, Wash.
Tuckerman, J. E., Cleveland, Ohio.
Uran, B. F., Kankakee, Ill.
Van Meter, S. D., Denver, Col.
Van der Horck, Max P., Minneapolis, Minn.
Vaughan, George Tully, Washington, D. C.
Wakeman, B. R., Hornellsville, N. Y.
Walker, Ralph C., Portland, Ore.
Walker, Frank B., Detroit, Mich.
Walsh, Frank Alfred, Erie, Pa.
Warren, John Collins, Boston, Mass.
Weir, Robert F., New York, N. Y.
Weidner, M. R., Dolton, Ill.
Wells, Ernest Alden, Hartford, Conn.
Wemple, E. L., Sr., San Francisco, Cal.
West, William K., Calumet, Mich.
Wheeler, Ernest C., Fargo, N. D.
Whitney, Eugene Wolcott, Salt Lake City, Utah.
Whitley, R. L., Osage, Iowa.
Wible, E. E., Munhall, Pa.
Wiest, Sard, Longmont, Col.
Wiggins, S. L., McKeesport, Pa.
Wight, Otis B., Portland, Ore.
Wilson, Charles Merrill, Park City, Utah.
Wiley, J. O. C., Portland, Ore
Willard, De Forest, Philadelphia, Pa.
Willis, Park Weed, Seattle, Wash.
Wiley, Frank S., Fond du Lac, Wis.
Wilson, Jefferson H., Beaver, Pa.
Wilson, H. C., Portland, Ore.
Wilson, Geo. F., Portland, Ore.
Wilbur, Hubert G., Fall River, Mass.
Winslow, Randolph, Baltimore, Md.
Wishard, Wm. N., Indianapolis, Ind.
Wood, C. B., Monongahela, Pa.
Woods, Edmund F., Janesville, Wis.
Wright, H. A. Wilbur, Wash.
Wright, E. S., Salt Lake City, Utah.
Wright, A. L., Carroll, Iowa.
Wyman, Hal C., Detroit, Mich.
Yarnell, Silas, Spokane, Wash.
Yocom, James R., Tacoma, Wash.

Section on Hygiene and Sanitary Science.

Amos, Wm. F., Portland, Ore.
Armstrong, G. S., Spokane, Wash.
Ard, C. Z., Cecilian, Ky.
Barchfeld, Andrew J., Pittsburg, Pa.
Bever, Henry G., Washington, D. C.
Browning, Chas. C., Monrovia, Cal.
Campbell, Wm. M., Portland, Ore.
Whitney-Cardwell, Mae H., Portland, Ore.
Carpenter, Dudley N., Puget Sound, Wash.
Carroll, James, Washington, D. C.
Chapman, W. C., Toledo, Ohio.
Corss, Frederic, Kingston, Pa.
Cumming, Hugh Smith, U. S. P. H. & M.-H. S., Washington, D. C.
Dewey, Henry Wells, Tacoma, Wash.
Ebert, R. G., Vancouver Barracks, Wash.
Foster, N. K., Sacramento, Cal.
Frank, Philip, North Yakima, Wash.
Genoway, Chas. V., Spokane, Wash.
Hedges, F. R., Everett, Wash.
Heg, Elmer E., Seattle, Wash.
Hunt, C. C., Dixon, Ill.
Keister, B. C., Roanoke, Va.
Kennicott, G. W., Chehalis, Wash.
Kinney, Alfred, Astoria, Ore.
Knox, S. P. B., Santa Barbara, Cal.
Kober, George M., Washington, D. C.
Lewis, Denslow, Chicago, Ill.
Libbey, Geo. A., Tacoma, Wash.
Luce, Frank H., Davenport, Wash.
Matson, Ralph C., Portland, Ore.
McCormack, J. N., Bowling Green, Ky.
McDaniel, A. S., San Antonio, Texas.
McGaughey, J. R., Winona, Minn.
Montgomery, Liston Homer, Chicago, Ill.
Morrison, Walter F., Spokane, Wash.
Nagle, John T., New York, N. Y.
Park, Wm. H., New York, N. Y.
Peterkin, G. S., Seattle, Wash.
Price, Marshall Langton, Baltimore, Md.
Reinhardt, George F., Berkeley, Cal.
Rust, H. H., Enumclaw, Wash.
Spelman, James F., Anaconda, Mont.
Stanton, Samuel C., Chicago, Ill.
Walls, J. T., Portland, Ore.
Williams, Mrs. Annie W., Haywards, Cal.
Wetherbee, J. R., Portland, Ore.
Woodruff, Major Chas. E., Plattsburg, N. Y.
Wyman, Surgeon-General Walter, Washington, D. C.

Section on Ophthalmology.

Adams, A. L., Jacksonville, Ill.
Alway, Robert D., Aberdeen, S. D.
Bach, James A., Milwaukee, Wis.
Beaudoux, H. A., Fargo, N. D.
Bentley, Frederick, Seattle, Wash.
Black, J. A., San Francisco, Cal.
Briggs, Wm. Ellery, Sacramento, Cal.
Brobst, Chas. H., Peoria, Ill.
Bradfield, J. A. L., LaCrosse, Wis.
Brown, E. V. L., Chicago, Ill.
Brown, Felix Manning, Hopkinsville, Ky.
Brown, Edward J., Minneapolis, Minn.
Buchanan, Mary, Philadelphia, Pa.
Bulson, Albert E., Jr., Fort Wayne, Ind.
Bullitt, James B., University, Miss.
Carr, George W., Wilkesbarre, Pa.
Carrico, James Huston, Woodburn, Ore.
Connor, Leartus, Detroit, Mich.
Connell, E. De Witt, Portland, Ore.
Crane, C. S., Grand Forks, N. D.
Craig, Alex. R., Columbia, Pa.
Crocker, Fred S., Chicago, Ill.
Croskey, John Welsh, Philadelphia, Pa.
De Beck, David, Seattle, Wash.
Dial, E. A., Santa Barbara, Cal.
Dickey, John L., Wheeling, W. Va.
Dickson, J. F., Portland, Ore.
Donovan, Jno. A., Butte, Mont.
Eaton, Frank B., San Francisco, Cal.
Ellis, M. H., Albany, Ore.
Featherston, J. S., Macon, Miss.
Findley, Marcus C., Grant's Pass, Ore.
Frankhauser, Fremont W., Reading, Pa.
French, C. Gertrude, Portland, Ore.
Fringer, W. R., Rockford, Ill.
Gordon, R. N., Seattle, Wash.
Grant, Jas G., Akron, Ohio.
Grannis, E. H., Menomonie, Wis.
Greene, Allen A., Anniston, Ala.
Grove, Benjamin H., Buffalo, N. Y.
Hager, W. A., South Bend, Ind.
Hazlett, Edw. E., Abilene, Kan.
Heath, Frederic C., Indianapolis, Ind.
Herbert, J. Fred'k, Philadelphia, Pa.
Herron, J. T., Jackson, Tenn.
Hibbard, William Edward, Pasadena, Cal.
Hilscher, Frank W., Spokane, Wash.
*Hirschberg, T., Berlin, Germany.
Holmes, Christian R., Cincinnati, Ohio.
Hulen, Vard H., San Francisco, Cal.
Jackson, Edward, Denver, Col.
Jordan, P. A., San Jose, Cal.
Johnston, Wilson, Colfax, Wash.
Kirkpatrick, Milo, Portland, Ore.
Kistler, O. F., Wilkesbarre, Pa.
Kniskern, E. L., Centralia, Wash.
Knapp, C. C., Zanesville, Ohio.
La Motte, Henry, Salt Lake City, Utah.
Ledbetter, Samuel L., Birmingham, Ala.
Lewis, E. J., Sauk Center, Minn.
Lindley, D. C., New Castle, Pa.
Matheny, Ralph C., Galesburg, Ill.
Magee, R. S., Topeka, Kan.
McClenathan, J. C., Connellsville, Pa.
Miller, Frank W., Los Angeles, Cal.
Moore, Thos. W., Huntington, W. Va.
Mosgrove, Anna M., San Francisco, Cal.
Murphy, W. W., Los Angeles, Cal.
Nagel, C. S. G., San Francisco, Cal.
Neeper, E. R., Colorado Springs, Col.
Nunn, Richard, Portland, Ore.
Parker, Mary E., Portland, Ore.
Park, George, Sioux City, Iowa.
Pischel, Kaspar, San Francisco, Cal.
Pond, Gardner Perry, San Francisco, Cal.
Posey, Wm. Campbell, Philadelphia, Pa.
Powell, Barton J., Stockton, Cal.
Renaud, Geo. L., Detroit, Mich.
Reynolds, Dudley S., Louisville, Ky.
Risley, Samuel D., Philadelphia, Pa.
Roberts, W. H., Pasadena, Cal.
Rogers, Albert Clark, Los Angeles, Cal.
Savage, G. C., Nashville, Tenn.
Shoemaker, Wm. T., Philadelphia, Pa.
Smith, Eugene, Detroit, Mich.
Snyder, Walter H., Toledo, Ohio.
Stauffer, Fred, Salt Lake City, Utah.
Stevens, Cyrus Lee, Athens, Pa.
Stevenson, Mark D., Akron, Ohio.
Stillson, Hamilton, Seattle, Wash.
St. John, Samuel B., Hartford, Conn.
Straw, E. E., Marshfield, Ore.
Sutton, E. O., Tacoma, Wash.
Taylor, Lewis H., Wilkesbarre, Pa.
Thomson, R. L., Spokane, Wash.
Tyson, Henry H., New York, N. Y.
Vance, Willis O., Chicago, Ill.
Walker, J. R., Fresno, Cal.
Weeks, John E., New York, N. Y.
Wicks, Joseph L., Evanston, Wyo.
Wiener, Meyer, St. Louis, Mo.
Williams, Charles H., Boston, Mass.
Wing, Peleg B., Tacoma, Wash.
Wood, William L., Portland, Ore.
Zentmayer, William, Philadelphia, Pa.

Section on Diseases of Children.

Blair, B. H., Lebanon, Ohio.
Butler, William J., Chicago, Ill.
Campbell, Donald, Butte, Mont.
Clark, Wm. Summer, San Francisco, Cal.
Cook, John C., Chicago, Ill.
Cotton, Alfred C., Chicago, Ill.
Curlin, P. V., Denver, Col.
Dart, Leslie O., Minneapolis, Minn.
De Witt, C. H., Glenwood, Iowa.
Ducote, C. J., Cottonport, La.
Fairbanks, Arthur Willard, Boston, Mass.
Furman, Davis, Greenville, S. C.
Garrison, Harriet E., Dixon, Ill.
Gray, Ethel L., Portland, Ore.
Grinnan, St. Geo. T., Richmond, Va.
Gunn, John W., Butte, Mont.
Harrell, T. M., Round Rock, Texas.
Hawke, C. E., Portland, Ore.
Hesser, George Turner, Folsom City, Cal.
Holcombe, Luman C., Milton, Vt.
Hollopeter, W. C., Philadelphia, Pa.
Hollister, O. C., Portland, Ore.
Hunter, Alexander, Kendrick, Idaho.
Lindsay, Kate, Boulder, Col.
Lippe, Meyer J., St. Louis, Mo.
MacLeod, Alexander F., Spokane.
Majors, Ergo A., Soledad, Cal.
McClanahan, Harry M., Omaha, Neb.
McGavin, Jessie M., Portland, Ore.
Michael, Max, Chicago, Ill.
Minton, E. W., Oakdale, Neb.

Morse, John Lovett, Boston, Mass.
Newell, Mary R., Onarga, Ill.
Newman, De Witt C., Spokane, Wash.
Ostheimer, Maurice, Philadelphia, Pa.
Parrish, John W., Brooklyn, N. Y.
Pohl, Esther C., Portland, Ore.
Ringo, R. E., Pendleton, Ore.
Roberts, W. P., Cleghorn, Iowa.
Rosenthal, Edwin, Philadelphia, Pa.
Silver, Lewis M., New York, N. Y.
Smith, Alice M., Tacoma, Wash.
Snyder, J. Ross, Birmingham, Ala.
Tolman, Julia, Arlington, Mass.
Vinson, L. T., Kenova, W. Va.
Wahrer, C. F., Ft. Madison, Iowa.
Wills, G. M., Portland, Ore.

Section on Stomatology.

Allan, Chas. F., Newburgh, N. Y.
Baldwin, A. E., Chicago, Ill.
Brown, Geo. V. I., Milwaukee, Wis.
Buck, Louis, Portland, Ore.
Bulkley, L. Duncan, New York, N. Y.
Carlton, Harry P., San Francisco, Cal.
Chance, Arthur W., Portland, Ore.
Dodson, Z. T., Cleveland, Wash.
Donville, J. C., North East, Pa.
Fletcher, J. R., Winnetka, Ill.
Finck, T. D., Louisville, Ky.
Latham, Vida A., Chicago, Ill.
Levings, A. H., Milwaukee, Wis.
Lindsay, John J., Manchester, Iowa.
Marshall, John S., U. S. A., San Francisco, Cal.
Moyer, S. R., Monroe, Wis.
Platt, Frank L., San Francisco, Cal.
Ristine, H. G., Fort Dodge, Iowa.
Rhein, M. L., New York, N. Y.
Rowell, Haynie, Kearney, Mo.
Schamberg, Morris I., Philadelphia, Pa.
Steeves, Alice M., Boston, Mass.
Talbot, Eugene S., Chicago, Ill.
Wooley, E. W., Winona, Minn.

Section on Nervous and Mental Diseases.

Barstow, J. M., Council Bluffs, Iowa.
Boys, William, Portland, Ore.
Brainerd, H. G., Los Angeles, Cal.
Bridge, Norman, Los Angeles, Cal.
Brower, D. R., Chicago, Ill.
Burnham, F. R., San Diego, Cal.
Carrithers-Calvin, Jessie, Ft. Wayne, Ind.
Caples, B. M., Waukesha, Wis.
Clark, David R., Dearborn, Mich.
Coe, Henry Waldo, Portland, Ore.
Cook, Geo. F., Oxford, Ohio.
Crothers, Thomas D., Hartford, Conn.
Dawson, Wm. J. G., Eldridge, Cal.
Drew, Charles A., Bridgewater, Mass.
Ely, Frank A., Des Moines, Iowa.
Gasser, Herman, Platteville, Wis.
Gifford, Alfred, Lawrence, Kan.
Gillespie, Robert L., Portland, Ore.
Gilbert, J. Allen, Portland, Ore.
Hawkins, J. H., St. Helena, Cal.
Hersman, C. C., Pittsburg, Pa.
Hessler, Robert, Logansport, Ind.
Holtzapple, G. E., York, Pa.
Hood, Wm. Henry, Reno, Nev.
House, William, Portland, Ore.
Jelliffe, Smith Ely, New York, N. Y.
Josephi, S. E., Portland, Ore.
Kilbourne, Arthur F., Rochester, Minn.
King, E. W., Ukiah, Cal.
MacCurdy, John, Youngstown, Ohio.
MacLean, J. D., Mead, Wash.
McBride, James H., Pasadena, Cal.
McGregor, Robert, Saginaw, Mich.
Mead, Sarah R., Newark, N. J.
Moore, Richard C., Omaha, Neb.
Oettinger, Bernard, Denver, Col.
Pershing, Howell T., Denver, Col.
Pressey, A. J., Cleveland, Ohio.
Price, A. D., Harrodsburg, Ky.
Punton, John, Kansas City, Mo.
Renz, Carl, San Francisco, Cal.
Robnett, J. H., Salem, Ore.
Robbins, Emma E., Hastings, Neb.
Rowe, Mark, Redmon, Ill.
Rutledge, Frances E., Newberry, Mich.
Schwab, Sidney I., St. Louis, Mo.
Selover, F. E., Eugene, Ore.
Smith, Robert Percy, Baltimore, Md.
Sneve, Haldor, St. Paul, Minn.
Spalding, S. K., Omaha, Neb.
Stewert, Walter S., Wilkesbarre, Pa.
Thoma, G. H., Reno, Nev.
Tomlinson, H. A., St. Peter, Minn.
Twohey, Jno. J., Buffalo, N. Y.
Ward, W. H., Phoenix, Ariz.
Williamson, Walter T., Portland, Ore.
Wolfstein, D. I., Cincinnati, Ohio.
Yeaman, M. H., Lakeland, Ky.

Section on Cutaneous Medicine and Surgery.

Ankrim, Louie F., Pittsburg, Pa.
Baum, William L., Chicago, Ill.
Booth, Bradford Allen, Pittsburg, Pa.
Brayton, A. W., Indianapolis, Ind.
Calvin, Warren D., Ft. Wayne, Ind.
Connell, J. P., Fond du Lac, Wis.
Corlett, William Thomas, Cleveland, Ohio.
Dougherty, Clement F., Baker City, Ore.
Fewsmith, Joseph, Newark, N. J.
Field, Geo. J., Eureka, Utah.
Fisk, F. F., Price, Utah.
Foxworthy, O. W., Leon, Iowa.
Grosse, Alfred B., San Francisco, Cal.
Hawkins, Thos. H., Denver, Col.
Herdon, G. A., Louisville, Ky.
Hamlin, Oliver D., Oakland, Cal.
Howell, John T., Wilkesbarre, Pa.
Ingram, Jesse W., Walla Walla, Wash.
Jelks, James T., Hot Springs, Ark.
King, J. C. Elliott, Portland, Ore.
Powers, Haymond J., Ogden City, Utah.
Pusey, W. A., Chicago, Ill.
Ravogli, Augustus, Cincinnati, Ohio.
Reinle, Geo. G., Oakland, Cal.
Rosenberg, F. J., Lexington, Neb.
Sala, E. M., Rock Island, Ill.
Short, J. M., Gresham, Ore.
Smith, Jacob S., Bellingham, Wash.
Swoboda, Louis, Omaha, Neb.
Thomas, James W., Seattle, Wash.
Tilzer, A., Portland, Ore.
Williams, Ralph, Los Angeles, Cal.

Section on Laryngology and Otology.

Anderson, Willis S., Detroit, Mich.
Barnhill, John F., Indianapolis, Ind.
Bartle, P. J., Eugene, Ore.
Brosius, F. C., Hood River, Ore.
Bryant, W. Sohler, New York, N. Y.
Bruere, Gustave E., Portland, Ore.
Cline, L. C., Indianapolis, Ind.
Coghlan, Dr. John N., Portland, Ore.
Cooper, C. E., Denver, Col.
Cott, Geo. F., Buffalo, N. Y.
Cox, Rosamond L., San Francisco, Cal.
Daily, F. M., Beloit, Kan.
De Vilbiss, Allen, Toledo, Ohio.
Fenton, H. C., Portland, Ore.
Foster, Hal, Kansas City, Mo.
Freer, Otto T., Chicago, Ill.
Gaines, J. W., Kansas City, Mo.
Gildea, P. F., Colorado Springs, Col.
Hall, D. Walton, Kansas City, Mo.
Hastings, Hill, Los Angeles, Cal.
Hawley, Alanson W., Seattle, Wash.
Kirk, W. H., Pittsburg, Pa.
Kirkendall, John S., Ithaca, N. Y.
Leland, G. A., Boston, Mass.
Maisbary, Geo. E., Cincinnati, Ohio.
Martindale, John H., Los Angeles, Cal.
Myles, Robert E., New York, N. Y.
Osgood, C. F., Ogden, Utah.
Pennell, William W., Mt. Vernon, Ohio.
Powers, L. M., Los Angeles, Cal.
Richards, Geo. L., Fall River, Mass.
Rogers, Arthur S., Saginaw, Mich.
Solenberger, Amos R., Colorado Springs, Col.
Welty, Cullin F., San Francisco, Cal.

Section on Pharmacology and Therapeutics.

Beard, T. E., Grant's Pass, Ore.
Bowen, Frederick, Jacksonville, Fla.
Chamberlin, C. S., Cincinnati, Ohio.
Clark, G. H., Waterloo, Iowa.
Coad, N. G. O., Hull, Iowa.
Cottel, Willis I., Portland, Ore.
Dickerson, W. L., St. Louis, Mo.
Fassett, Chas. Wood, St. Joseph, Mo.
Foss, John W., Phoenix, Ariz.
Frick, Wm., Kansas City, Mo.
Hallberg, C. S. N., Chicago, Ill.
Harris, E. Eliot, New York, N. Y.
Jones, Philip Mills, San Francisco, Cal.
Kelly, J. V., Philadelphia, Pa.
Leonard, Edwin, Jr., Jersey City, N. J.
Lewis, H. Edwin, Burlington, Vt.
McNair, William Righter, Glendora, Cal.
Reilly, Thos. F., New York City, N. Y.
Riley, Cassius M., St. Louis, Mo.
Ristine, W. H., Crawfordsville, Ind.
Simmons, George H., Chicago, Ill.
Stern, Heinrich, New York, N. Y.
Walker, A. D., Portland, Ore.
Waugh, Wm. F., Chicago, Ill.
Wheatley, Frank G., North Abington, Mass.
Wilson, L. D., Wheeling, W. Va.

Section on Pathology and Physiology.

Black, Stanley P., Pasadena, Cal.
Brooks, Harriet V. Bills, Saginaw, Mich.
Brubaker, Albert P., Philadelphia, Pa.
Christian, Henry A., Boston, Mass.
Hall, Winfield S., Chicago, Ill.
Kemp, Geo. T., Champaign, Ill.
King, Chas. Lee, Pasadena, Cal.
Knabe, Helene, Indianapolis, Ind.
Krone, Carl R., Oakland, Cal.
McClintock, Chas. T., Detroit, Mich.
McFarland, Joseph, Philadelphia, Pa.
New, Charles F., Indianapolis, Ind.
Nusbaumer, Pauline S., Oakland, Cal.
Raley, Franklin H., Salt Lake City, Utah.
Rosenau, M. J., Washington, D. C.
Ruediger, Gastav F., Chicago, Ill.
Smith, Claude A., Atlanta, Ga.
Wynn, Frank B., Indianapolis, Ind.

The following did not specify any particular Section:

Ainslie, George, Portland, Ore.
Aschenbrenner, C. F. Dysart, Iowa.
Axtell, W. H., Bellingham, Wash.
Avey, O. H., Payette, Idaho.
Barnes, E. W., North Powder, Ore.
Botkin, A. W., Mt. Tabor Sta., Portland, Or.
Bowles, Marion K., Joliet, Ill.
Boyd, J. C., Washington, D. C.
Boyers, J. S., Decatur, Ind.
Brundage, M., Shelley, Idaho.
Carson, N. B., St. Louis, Mo.
Carll, Walter E., Oregon City, Ore.
Cargill, Chauncey W., Mason City, Ill.
Carter, R. H., Victoria, B. C.*
Collins, I. S., Burke, Idaho.
Cook, John Wallace, Pendleton, Ind.
Douglas, William, Tacoma, Wash.
Downing, W. L., Moulton, Iowa.
Drew, Geo. E., New Westminster, B. C.*
Edwards, Wm., Rowdle, S. D.
Eldridge, E. F., Grand Junction, Colo.
Equi, Marie D., Portland, Ore.
Ferguson, James B., Olivia, Minn.
Ferguson, E. E., The Dalles, Ore.
Giesy, A. J., Portland, Ore.
Hanson, D. S., Cleveland, Ohio.
Hatchett, John A., El Reno, Okla.
Hines, Chas., Forest Grove, Ore.
Hosmer, A. J., Salt Lake City, Utah.
Hughes, H. A., Phoenix, Ariz.
Jayne, R. A., Springfield, Ore.
Jefferson, G. Orlo, Portland, Ore.
Johnson, J. J., Harrison, Ark.
Keith, L. S., Towanda, Ill.
Kirkpatrick, Wm. D., Bellingham, Wash.
Lane, Harry, Portland, Ore.
Lehnkering, C. F., Darlington, Wis.
Lobdell, Mary J., Beloit, Kan.
Long, John W., Bryan, Ohio.
Manning, John F., Everett, Wash.
Martin, Harry S., Spokane, Wash.
Marsh, R. J., Portland, Ore.
Matthews, A. Aldridge, Spokane, Wash.
Moody, Chas S., Sand Point, Idaho.
Murray, A. J., Lakeside P. O., Ontario.*
Newcomer, M. V. B., Tipton, Ind.
O'Reilly, Robert W., Washington, D. C.
Parkinson, James H., Sacramento, Cal.
Peavler, G. M., Bristol, Tenn.
Pickel, E. B., Medford, Ore.
Prinzing, Jacob, Ontario, Ore.
Purdue, G. C., Wichita, Kan.
Rankin, Theo. W., Columbus, Ohio.
Saunders, Clark E., Union, Ore.
Seidler, W. J., Newark, N. J.
Skene, William H., Portland, Ore.
Smouse, David W., Des Moines, Iowa.
Spottswood, E. W., Missoula, Mont.
Stevens, J. E., Seattle, Wash.
Stickney, V. H., Dickinson, N. D.
Strickland, Melville Cox, Oregon City, Ore.
Stribling, J. S., Seneca, S. S.
Tanquary, J. H., St. Louis, Mo.
Thornton, Edgar H., Portland, Ore.
Thorpe, J. L., Jefferson City, Mo.

Turner, W. K., Seattle, Wash.
Turner, S. T., El Paso, Texas.
Tuthill, J. A., Le Roy, Ill.
Vaughn, J. B., Castlewood, S. D.
Watkins, T. R., Aberdeen, Wash.
Watson, W. C., Lima, Ohio.
Watson, Wm. Newbold, Philadelphia, Pa.
Welch, John Frederick, Quincy, Mass.
Wheeler, C. H., Portland, Ore.
Wiltsie, S. F., Seattle, Wash.
Willson, G. C., Nevada, Mo.
Witherbee, O. O., Los Angeles, Cal.
Wood, C. B., Honolulu, Hawaii.
Wood, J. F., Condon, Ore.
Yerdon, Charles F., Brooklyn, N. Y.
Young, James A., Pearl, Idaho.

NEW MEMBERS.

List of new members of the American Medical Association during the month of July, 1905:

ALABAMA.

Dugan, R. H., Prairie Villa.
Fields, E. T., Ensley.

ARIZONA.

Cassady, D., Bisbee.
Hughes, H. A., Phoenix.
Olcott, A. W., Tucson.

ARKANSAS.

Eastman, E. H., Hot Springs.
Hederick, A. R., Booneville.
Parker, J. L., Snyder.
Sweatland, A. E., Little Rock.
Steed, C. J., Hurricane.

CALIFORNIA.

Avey, J. L., Redlands.
Bryant, E. A., Los Angeles.
Barber, D. C., Los Angeles.
Black, J. A., San Francisco.
Brown, Geo. J., Smith River.
Breneman, J. T., Martinez.
Carlton, H. P., San Francisco.
Clark, Wm. A., San Leandro.
Cunnani, T. E., Ventura.
Crediford, D. B., Rialto.
Campbell, C. G., San Bernardino.
Cox, H. M., San Luis Obispo.
Dial, E. A., Santa Barbara.
Davis, S. F., Pomona.
Hesser, G. T., Folsom City.
Herbert, H., Los Angeles.
Hinkle, B. M., San Francisco.
King, E. D., Ukiah.
Kane, J. M., Oakland.
Kelly, A. S. Oakland.
Majors, E. A., Stoledad.
Milton, J. L., Oakland.
Magee, C. L., Los Angeles.
Meng, J. D., Chico.
Mules, J. H., East Auburn.
Nelson, L., San Francisco.
Nixon, A. W., Los Angeles.
Pond, G. P., San Francisco.
Reed, C. E., Redding.
Ryfkogel, H. A. L., San Francisco.
Richardson, N. E., Salinas.
Schmall, E., San Francisco.
Smyth, M. H., Stockton.
Southworth, M. A., San Jose.
Schlageter, H. J., San Francisco.
Troppmann, C. M., San Francisco.
Walker, J. R., Fresno.

COLORADO.

Bren, M. R., Denver.
Daniels, H. P., Colorado City
Epler, Crum, Pueblo.
Hutchinson, W., Del Agua.
Keeney, M. J., Pueblo.
Phelan, N. J., Denver.
Stubbs, A. L., La Junta.
Shere, O. M., Denver.
Wood, W. H., Greeley.
Wilkinson, W. W., Silverton.

CONNECTICUT.

Heady, E. B., Milford.
Lewis, J. B., Hartford.
Loomis, F. N., Derby.
McCabe, E. M., New Haven.
Smirnow, Louis, Bridgeport.
Streit, George, Middletown.
Witter, Wm., Norwich.
Young, C. B., Middletown.

DISTRICT OF COLUMBIA.

Biscoe, F. L., Washington.
Duffey, H. C., Washington.
Key, Sothoron, Washington.

GEORGIA.

Champion, W. L., Atlanta.

HAWAII.

Day, F. R., Honolulu.
Armitage, Edw., Wailuku, Maui.

IDAHO.

Boyd, T. O., Twin Falls.
Collister, Geo., Boise.
Coultchard, G. H., Idaho Falls.
Clouchek, H. W., Twin Falls.
Gritman, C. L., Moscow.
Hamilton, J. J., Caldwell.
Hall, O. L., Star.
Jordan, M. S., Grand Mound.
Moody, C. S., Sand Point.
Murray, J. H. Nampa.
Phillips, C. C., Lewiston.
Springer, W. D., Boise.

ILLINOIS.

Bailey, C. W., Hebron.
Bailey, G. T., Chicago.
Baldwin, B. H., Chicago.
Burch, G. W., Quincy.
Bussey, G. N., Chicago.
Bell, A., Chicago.
Clune, P. J., Ottawa.
Coone, B., Chicago.
Crowder, T. R., Chicago.
Crouch E. L., Jacksonville.
Conner, E. M., Chicago.
Dagg, T. L., Chicago.
Dicus, G. A., Streator.
Duncan, C. E., Flora.
Foster, T. J., De Soto.
Fiske, D., Chicago.
Gaebler, Arthur, Chicago.
Githens, W. K., Hamilton.
Greig, T. O., Chicago.
Hester, E. E., Paxton.
Hansen, G. H., Chicago.
Harper, J. E., Chicago.
Huey, W. B., Chicago.
Hamilton, J. W., Mt. Vernon.
Hassin, G. B., Chicago.
Frank, I., Chicago.
Kieene, F. R. C., Chicago.
Lemen, H. R., Alton.
Leonard, E. F., Chicago.
Lurie, W. A., Chicago.
Lyon, C. E., Toledo.
MacDowell, E. G., Chicago.
McCornack, E. A., Elgin.
Merki, E. J., Chicago.
Miller, G. P., Chicago.
Miller, J. E., Pittsfield.
McGuire, J. W., Chicago.
Peter, R., Chicago.
Presler, H. M., Cullom.
Presnell, J. F., Chicago.
Phillips, D. C., Chicago.
Podstata, V. H., Dunning.
Rosenow, E. C., Chicago.
Reid, D. W., Jacksonville.
Rochow, C. J. F., Rock Island.
Remmen, N. E., Chicago.
Rudy, F. T., Champaign.
Vary, W. H., Chicago.
Vaupell, W. R., Chicago.
Washburn, W. E., Kewanee.
Whise, M., Chicago.

INDIANA.

Brill, J. H., Indianapolis.
Black, F. W., Ligonier.
Calvin, J. Carruthers, Ft. Wayne.
Cooper, J. A., Terre Haute.
Daugherty, C. A., South Bend.
Freeland, J. L., Indianapolis.
Hawn, C. E., Little York.
Mattison, J. A., Nat. Mil. Home.
McFarlin, J. T., Williams.
Miller, H. H., Galveston.
Niblack, E. S., Terre Haute.
Ritter, M. T., Angola.
Whitesides, L. L., Franklin.
Westover, R. L., Indianapolis.

IND. TERRITORY.

Looney, R. E., Lindsay.

IOWA.

Burgess, J. A. W., Iowa Falls.
Brubaker, J. F., Hubbard.
Bridgman, J. C., Radcliffe.
Breniman, E. M., Ackley.
Butler, F. P., Whitten.
Bartran, R. T., Albia.
Corbit, A. B., Wyoming.
Caldwell, J. W., Steamboat Rock.
Caldwell, J. Willard, Steamboat Rock.
Conner, F. H., Nevada.
Cronk, C. H., Bloomfield.
Dittmer, H. A., Manchester.
Evans, F. J., Iowa Falls.
Hobson, A. J., Hampton.
Hunter, W. W., Monticello.
Hartman, F. T., Waterloo.
Jones, E. H., Eldora.
Koeneman, E. O., Eldora.
Lowder, Wm., New Providence.
McLaughlin, C. W., Washington.
Miller, J. J., Ackley.
Moore, M. F., Martinsburg.
Mabee, C. O., New Providence.
Marsh, W. E., Eldora.
Morton, L. B., Iowa Falls.
Murphy, F. J., Sioux City.
Pagelson, O. H., Iowa Falls.
Petrovitsky, J. S., Cedar Rapids.
Rabe, F. L., Hubbard.
Roberts, W. P., Cleghorn.
Scarborough, H. V., Grand Junction.
Sanders, W. E., Alta.
Stone, Guy, Keswick.
Sherman, A. M., Grinnell.
Trimble, C. S., Buckeye.
Underwood, R. B., Eldora.
Vroom, C. W., Ackley.
Wood, P. R., Marshalltown.
Walker, J. R., Ft. Madison.
Whitney, W. E., Eldora.
Willett, C. C., Whitten.
Wray, C. M., Lawton.
White, E. E., Huxley.

KANSAS.

Boss, J. H., Weir City.
Buley, D. G., Valley Center.
Blades, S. T., Scottsville.
Chadwick, I. B., Tyro.
Fabrigur, A. H., Wichita.
Holt, T. T., Geudo Springs.
Hartwell, G. N., Jamestown.
Hardesty, H. O., Jennings.
Humfreville, D. W., Waterville.
McManis, J. E., Havensville.
Nichols, S., Herington.
Nye, W. W., Hiawatha.
Shelton, F. W., Independence.
Snyder, H. G., Seneca.
Spitler, S. W., Wellington.
Shannon, L. W., Hiawatha.
Ullman, J. F., Simpson.
Wilson, W. P., Westmoreland.

KENTUCKY.

Hendon, G. A., Louisville.
Lex, E. A., Louisville.
Mosely, J. C., Henderson.
Price, A. D., Harrodsburg.

LOUISIANA.

Burley, C. H., Monterey.
Feucht, E. P., Laplace.

MAINE.

Merrill, H. P., Portland.
Price, W. N., Richmond.
Washburn, G. E., Augusta.
Walton, R. D., Frankfort.

MARYLAND.

Davidson, C. F., Easton.
Goodman, J. M., Frederick.
Hall, R. M., Baltimore.
Harrison, H. T., Loch Raven.
Kahn, H., Baltimore.
Legge, J. E., Oakland.
McNeer, R. L., Baltimore.
Magruder, W. E., Cany Spring.
Spear, I. J., Baltimore.
Seymour, W. S., Trappe.
Wilcox, F. W., Baltimore.

MASSACHUSETTS.

Bacon, T. S., Cambridge.
Chase, E. L., Shrewsbury.
Cunningham, J. H., Jr., Boston.
Dwight, Thos., Nahant, Mass.
Glendenning, R. T., Manchester.
Hunt, W. O., Newtonville.
Haines, I., Cambridge.
Hubbard, J. C., Boston.
Jackson, H. B., Melrose.
Murdock, F. W., Brockton.
McPherson, G. E., S. Boston.
Morse, F. L., Somerville.
Murphy, E. M., Lowell.
Newhall, H. W., Lynn.
Nichols, J. H., Tewksbury.
Osborne, C. A., Worcester.
Porter, R. B., North Easton.
Richardson, F. L., Concord.
Tyrode, M. V., Boston.
Trainor, J. B., Fall River.
Wadsworth, O. F., Boston.
Whiton, R. K., Quincy.

MICHIGAN.

Baird, R. H., Howell.
Brook, J. D., Grandville.
Bryant, S. E., Dowagiac.
Elmer, W. P., Ann Arbor.
Hart, A. O., Maple Rapids.
Hewitt, H. W., Detroit.
Johnson, B. F. P., Rosebush.
McCarroll, Wm., Pontiac.
McKnight, E. E., Alpena.
Matchette, W. H., Hancock.
McBean, Jas. C., Applegate.
Shattuck, G. S., Detroit.
Sigel, T., Detroit.
Wessinger, J. A., Ann Arbor.

MINNESOTA.

Barsness, N. O. N., St. Paul.
Cowles, D. C., Minneapolis.
Dart, L. O., Minneapolis.
Hougan, O. M., Fergus Falls.
Pare, L. T., Duluth.
Rutledge, J. W., Minneapolis.
Salter, W. H., Duluth.
Stuart, J. H., Minneapolis.
Sawyer, H. P., Goodhue.
Theissen, W. N., Henderson.
Whitacre, J. C., St. Paul.

MISSISSIPPI.

Rauch, E. S., Vicksburg.
Simmons, C. L., McBride.

MISSOURI.

Austin, M. B., Brunswick.
Clagett, O. F., Jamesport.
Crawford, H. S., Harrisonville.
Davenport, R. G., Trenton.
Fleming, A. W., St. Louis.
Guibor, H. F., St. Louis.
Gashwiler, —, Novinger.
Hall, D. W., Kansas City.
Matlock, C. E., St. Louis.
Moore, E., St. Louis.
Miller, H., Kansas City.
Schulte, F. A., St. Louis.
Smith, B. T., Newburg.
Trimble, W. K., Kansas City.

MONTANA.

Lilly, A. H., Butte.
Moore, T. B., Butte.
Pampol, B. L., Livingston.
Pigot, C. T., Butte.

NEBRASKA.

Guttery, J. D., Valparaiso.
Isaacs, D., Winside.
Kraft, F. E., So. Auburn.
Quigley, D. T., No. Platte.
Robbins, E. E., Hastings.
Smrha, V. V., Milligan.

NEW HAMPSHIRE.

Locke, E. M., Nashau.
Palmer, H., Plymouth.

NEW JERSEY.

Baker, R. D., Summit.
Drummond, E. A., Newark.
Hoagland, G. G., Keyport.
Leonard, E., Jersey City.
Martland, W. H., Newark.

NEW MEXICO.

Smith, H. M., Las Vegas.
Thomson, R. J., Santa Rosa.
Yoakam, F. A., Cerrillos.

NEW YORK.

Benedict, A. J., Newburgh.
Berlin, F. F. R., New York.
Cooke, W. S., New York.
Conklin, R. C., Batavia.
Comfort, C. G. V., Rochester.
Dort, E., Buffalo.
Duggan, John, Albion.
Eytinge, O. J., Brooklyn.
Fuller, N. H., Friendship.
Friedman, L. A., New York.
Gross, M., New York.
Grady, J. J., New York.
Glenny, W. H., Buffalo.
Griggs, E. C., Ithaca.
Herst, S., New York.
Hopkins, F. T., New York.
Holland, A. L., New York.
Jackson, C. R., New York.
Latham, O. N., Bolivar.
Leibermann, J. M., New York.
Lewson, M., New York.
Lo Pinto, J., New York.
Lytle, C. G., Geneva.
McBurney, Charles, New York.
Meisburger, W., Buffalo.
Mooney, L. M., New York.
MacCoy, C., Brooklyn.
McParlan, J. P., New York.
Neal, V. F., Ellenville.
Nicolai, C., New York.
Preisch, E. L., Lockport.
Page, C. C., New York.
Pattison, W. E., Westport.
Potter, I. W., Buffalo.
Remington, A. C., Rochester.
Rushmore, E. C., Tuxedo Park.
Stewart, E. W., Hume.
Sayres, C. O., Belfast.
Stein, S. A., New York.
Woodroff, C. E., Plattsburg.
Winter, H. L., Cornwall.
Wheeler, D. E., Buffalo.

NORTH CAROLINA.

Austin, J. A., Charlotte.
Busby, J. G., Spencer.
Anders, McG., Connelly Springs.
Davis, R. L., Bryson City.
Harrill, L. B., Caroleen.

Joyner, R. W., Woodland.
Patrick, G. R., Lowell.
Reitzel, J. R., High Point.

NORTH DAKOTA.

Bates, W. H., Grand Forkes.
Burton, P. H., Fargo.
Claybaugh, W. R., Litchfield.
O'Brien, T., Wahpeton.

OHIO .

Bennett, J. H., Youngstown.
Blott, H. E., Youngstown.
Browning, C. H., Oberlin.
Brainerd, H. C., Cleveland.
Coe, E. W., Youngstown.
Christopher, W. H., London.
Crawford, G. M., Lorain.
Costello, T. A., Cleveland.
Dye, J. H., Cleveland.
Easton, J. C., Springfield.
Feiss, H. O., Cleveland.
Freeman, C. D., Medina.
Hawes, S. A., Greenville.
Hutchins, F. C., Cleveland.
Ingraham, F., Curtice.
Jacobs, H. H., Akron.
Kahn, M., Cleveland.
McPeck, E. E., Cleveland.
Pearson, G. L., Youngstown.
Parrish, R. C., Youngstown.
Ruel, J. J., Cleveland.
Runyan, M. T., Oberlin.
Snyder, F. D., Ashtabula.
Stone, W. J., Toledo.
Sharkey, B., Middletown.
Whitslar, W. H., Cleveland.
Williams, C. D., Cleveland.
Yocum, L. A., Wooster.
Yates, E. A., Kirkwood.

OKLAHOMA.

Beall, C. G., Oklahoma City.
Hahn, L. A., Guthrie.
Mitchell, E. B., Anadarko.
Steagall, T. R., Blackwell.

OREGON.

Belt, W. C., Portland.
Booth, W. H., Lebanon.
Bailey, A. B., Hillsboro.
Bailey, F. J., Hillsboro.
Boyd, W. H., Portland.
Braden, W. B., Portland.
Bristow, J. H., Portland.
Cathey, B. A., Corvallis.
Chilton, L. W., Canyon City.
Carrico, J. H., Woodburn.
De Vaul, O., Portland.
Douglas, G. H., Grant's Pass.
De Armond, R. S., Grant's Pass.
Ellis, M. H., Albany.
Farra, G. R., Corvallis.
Gullette, Fred, Portland.
Harris, J. W., Eugene.
Holcomb, C., Portland.
Hall, J. E., Clatskanie.
Hawke, C. E., Portland.
Harris, T. W., Eugene.
Hockett, C. T., Cottage Grove.
Hawk, W. C., Jefferson.
Jayne, R. A., Springfield.
Johnson, E. D., Portland.
Kime, A. W., Cottage Grove.
Kistner, F. B., Heppner.
Lane, H., Portland.
Lee, C. H., Corvallis.
Lewis, W. E., Seaside.
Lowe, J. M., The Dalles.
Mattson, R. C., Portland.
Marsh, R. J., Portland.
Prill, A. G., Scio.
Pernot, H. S., Corvallis.
Pogue, G. A., Ontario.
Pearce, C. M., Sumpter.
Pierce, E. A., Salem.
Ringo, R. E., Pendleton.
Robinson, F. M., Beaverton.
Rosenberg, J. H., Primeville.
Stott, J. S., Portland.
Scarbrough, L. D., Creswell.
Sternberg, J. D., Portland.
Silover, F. E., Eugene.
Smith, F. E., Salem.
Shaw, H. M., Ashland.
Trimble, W. A., Albany.
Timms, E. D., Portland.
Wood, W. D., Hillsboro.
Wade, C. E., Drain.
Watt, J. F., Hood River.
Wells, G. M., Portland.

PENNSYLVANIA.

Allen, C. W., Ambridge.
Bland, P. B., Philadelphia.
Baker, F. N., Media.
Brubaker, A. P., Philadelphia.
Crow, A. E., Uniontown.
Campbell, O. C., Philadelphia.
Frantz, G. B., Coal Center.
Gilliland, S. H., Philadelphia.
Horning, S. B., Lower Providence.
Horsman, C. C., Pittsburg.
Kachline, J. C., So. Bethlehem.
Linn, C. F., Monongahela.
Mitchell, C. F., Philadelphia.
McGrath, J. F., Pittsburg.
Maxwell, J. R., Parkersburg.
Remington A H., Philadelphia.
Rugh, W. J., Pittsburg.
Stayer, A. S., Altoona.
Sommer, H. J., Jr., Norristown.
Stranahan, G. W., Erie.
Taylor, F. H., Uniontown.
Volgt, C. H., Allegheny.
Weber, C. Z., Norristown.
Wormser, B. B., Scranton.
Zern, J. G., Lehighton.

RHODE ISLAND.

Brown, F. N., Providence.
Graham, S. P., Providence.
Kirby, W. W., Providence.
O'Neil, J. E., Providence.

SOUTH CAROLINA.

Buist, A. J., Charleston.
Giles, C. T. J., Greenville.
Johnston, J. G., Chester.
Wilson, J. R., Charleston.
Wylie, A. M., Chester.

SOUTH DAKOTA.

Carson, S. L., Lower Brule.
Frink, O. G., So. Shore.
Keller, W. F., Sioux Falls.
Townsend, L. J., Belle Fourche.

TENNESSEE.

Lewis, A. W., McCays, Tenn.
McRady, F. S., Petersburg.
Turner, A. E., Neboville.

TEXAS.

Adams, W. J., Robert Lee.
Huffaker, D. H., El Paso.
De Steigner, J. R., San Marcus.
Lester, H. B., Corsicana.
Lay, J. E., Jr., Sweet Home.
Latham, W. W., Porter Springs.
Simmons, C. B., Decatur.
White, A. H., El Paso.

UTAH.

Field, G. J., Eureka.
Stewart, M. R., Salt Lake City.
Stookey, W. M., Lehi, Utah.
Pinkerton, S. H., Salt Lake City.
Wade, W. A., Payson.

VERMONT.

Hunter, J. W., Jr., Norfolk.
Perkins, H. B., Croton.

VIRGINIA.

Clark, J. P., Lynchburg.
Tulloss, W. R., Haymarket.
Wiseman, H. A., Jr., Danville.

WASHINGTON.

Allen, H. E., Seattle.
Adair, B. A. O., No. Yakima.
Baker, B. L., Everett.
Cardwell, W. C., Pomeroy.
Coberly, L. J., Garfield.
Douglas, Wm., Tacoma.
De Beck, D., Seattle.
Engels, C. F., Ballard.
Ferguson, T. D., Colfax.
Fitch, H. J., Ellensburg.
Greene, H. M., La Crosse.
Gaines, W. S., Oakesdale.
Gibson, W. E., Issaquah.
Hood, C. S., Ferndale.
Ingram, J. W., Walla Walla.
Johnson, S. H., Bellingham.
Kinnear, C. H., Tacoma.
Keith, R. L., Seattle.
Kennecott, G. W., Chehalis.
Lyons, J. H., Seattle.
Luce, F. H., Davenport.
Morrison, W. F., Spokane.
Matthews, A. A., Spokane.
Maguire, Edw., Pullman.
Rose, F., Spokane.
Robins, M. C., Spokane.
Stevens, E. W., Dryad.
Shannon, W. A., Seattle.
Stafford, E. A., Snohomish.
Sellors, Wm., Spokane.
Stuht, A. E., Colfax.
Swearingen, P. B., Tacoma.
Smith, J. S., Bellingham.
Sargentich, S., Tacoma.
Woodin, S. P., Georgetown.
Wotherspoon, John, Seattle.
Warmburg, G. F., Seattle.
Wing, P. R., Tacoma.
West, W. F., Everett.

WEST VIRGINIA.

Henry, C. O., Fairmont.
Martin, E. T., Keyser.
Riedy, J. A., Monongah.
Slusher, W. C., Burnwell.
Walkinshaw, J. B., Wellsburg.

WISCONSIN.

Ashum, D. W., Eau Claire.
Bock, O. B., Sheboygan.
Bartran, W. H., Green Bay.
Christensen, J. W., Kendall.
Cleary, J. L., Kenosha.
Dahl, L. A., Stanley.
Elliott, S. T., Richland Center.
Fulton, W. A., Burlington.
Finstad, G. J., Menomonee.
Gibbs, G. L., Marshall.
Kitzki, W., Manawa.
Kelly, D. M., Baraboo.
Muth, Carl, Sheboygan.
Milbee, H. H., Marshfield.
Maurer, A. A., La Crosse.
Moody, L., Superior.
McDonald, H. F., Hollandale.
Neilson, W. H., Milwaukee.
Orchard, H. J., Superior.
Peterson, G. E., Waukesha.
Ridgman, A. L., Grand Rapids.
Senn, F. C., Oshkosh.
Scheib, G. F., Fond du Lac.
Trevitt, A. W., Wausau.
Teich, Wm., Milwaukee.
Zilisch, W. E., Hortonville.

WYOMING.

Bradfield, J. H., Sheridan.

State Boards of Registration

COMING EXAMINATIONS.

State Board of Medical Examiners of California, San Francisco, August 15. Secretary, Charles L. Tisdale, San Francisco.

Wyoming State Board of Medical Examiners, State Capitol, Cheyenne, Wyo., September 6. Secretary, S. B. Miller, Laramie.

Massachusetts Board of Registration in Medicine, State House, Boston, September 12-13. Secretary, E. B. Harvey, Boston.

Arkansas July Report.—Dr. J. P. Runyan, secretary of the State Medical Examining Board of the Arkansas Medical Society, reports the examination held at Little Rock, July 11, 1905. The number of subjects examined in was 7; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 28, of whom 19 were undergraduates; 18 passed, and 10 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
College of P. and S., Chicago (undergraduate)		85
Fisk University	(1900)	85
Flint Med. Coll. (undergraduates)	82, 76; (1905)	80
Memphis Hosp. Med. Coll. (undergraduate)		76
Barnes Med. Coll.	(1904) 78; (undergraduate)	81
Washington University (undergraduate)	80; (1903)	84
Tulane and Vanderbilt Univs. (undergraduate)		92
Tulane University (undergraduate)	75; (1905)	94
Shaw University (undergraduate)		81
Milwaukee Med. Coll.		94
University of Nashville (undergraduate)		83
University of Missouri (undergraduate)		75
Medico-Chirurgical, Kansas City	(1905)	78

FAILED.		
Galveston and Memphis Hosp. Med. Coll. (undergraduate)		43
University of Missouri (undergraduate)		53
University of Nashville and Baylor Med. Coll. (undergraduate)		69
Universities of Arkansas and Nashville (undergraduate)		58
Flint Med. Coll.	(1905)	59
Tulane University (undergraduate)		66
Louisville Med. Coll. and Tulane Univ. (undergraduate)		63
Knoxville Med. Coll.	(1903)	69
Memphis Hosp. Med. Coll. (undergraduate)		58
Memphis Hosp. Med. Coll. and Barnes Med. Coll. (undergraduate)		67

South Carolina June Report.—Dr. W. M. Lester, secretary of the South Carolina State Board of Medical Examiners, reports the written examination held at Columbia, June 13-15, 1905. The number of subjects examined in was 18; total number of questions asked, 95; percentage required to pass, 75, and not less than 60 on any subject. The total number of applicants examined was 66, of whom 44 passed and 22 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Medical Coll. of the State of South Carolina, (1900) 89.6; (1905) 77.2, 80.1, 81.2, 81.8, 82.1 82.6, 82.8, 83.2, 83.6, 83.8, 85, 85.3, 85.3, 86.3, 87.1, 88.1, 88.5, 93.2.		
University of Pennsylvania	(1901) 89.1; (1903)	89.6
Howard University	(1904)	81.7
University of Kentucky	(1904)	79.2
North Carolina Med. Coll.	(1902) 76; (1905)	80.1
College of P. & S., Chicago	(1905)	86.1
University of Nashville	(1905) 75.5, 82.3, 87,	92.7
Leonard Med. Coll.	(1902)	75
University of Maryland	(1904) 80.5, 81, 82, 78.6, 75,	83.7
Jefferson Med. Coll.	(1905) 78,	83.3
Tulane University	(1905) 79.7,	81
College of P. & S., Atlanta	(1900)	81.1
Baltimore Med. Coll.	(1905)	84
College of P. and S. Baltimore	(1904)	75

FAILED.		
Medical Coll. of the State of South Carolina, (1901) 60.2; (1905) 79.3,* 70.2, 78.6,* 76.8,* 78.8,* 79.8.*		
North Carolina Med. Coll.	(1903)	80.6*
University of the South	(1904)	74.1**
University of Kentucky	(1904)	79*
Leonard Med. Coll.	(1889) 66.5; (1905)	75*
Chattanooga Med. Coll.	(1905) 55.3,	59.3
University of Tennessee	(1905)	52.2
Meharry Med. Coll.	(1905)	75*
Maryland Med. Coll.	(1904) 56.6; (1905)	39.3
University of Maryland	(1905)	79.3*

Tulane University	(1904)	77.2*
Knoxville Med. Coll.	(1904)	69.7

* Below 60 per cent. on one or more subjects.
** Left examination on account of illness.

The general average attained by all representatives of the medical college of the state of South Carolina, who passed, was 84.5.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, week ending Aug. 5, 1905:

Halloran, Paul S., asst.-surgeon, leave of absence extended two months.

Ragan, Chas. A., asst.-surgeon, granted thirty days' leave of absence.

Clayton, Jere B., asst.-surgeon, assigned to duty at Fort Leavenworth, Kan., and granted fifteen days' leave of absence before reporting for duty.

Baker, David, asst.-surgeon, relieved from duty at Fort Leavenworth, Kans., and ordered to Fort Robinson, Neb., for duty.

Porter, Ralph S., asst.-surgeon, relieved from duty at Fort Niobrara, Neb., and ordered to Manila, P. I., for duty.

Woodbury, F. T., asst.-surgeon, ordered to accompany 3d Battalion, 5th Infantry, from Plattsburg Barracks, N. Y., to Sea Girt, N. J., for duty, and return with same.

Woodall, Wm. P., asst.-surgeon, left from detached duty at Fort Oglethorpe, Ga., on fifteen days' leave of absence.

Roberts, William, asst.-surgeon, ordered to accompany detachment from Fort Hamilton, N. Y., to Sea Girt, N. J., on Sept. 12, 1905, and remain at camp in charge of the medical department.

Wing, Franklin F., dental surgeon, granted leave of absence for one month, fifteen days, from Fort Riley, Kan.

Marshall, John S., examining and supervising dental surgeon, returned to the Presidio of San Francisco, from attendance on the American Medical Association and the Lewis and Clark Dental Congress at Portland, Ore.

Carpenter, Alden, dental surgeon, returned to Vancouver Barracks, Washington, from attendance on the Lewis and Clark Dental Congress at Portland, Ore.

Vaughan, Milton, contract surgeon, returned to Fort Douglas, Utah, from duty in the field, Strawberry Valley, Utah.

Macy, Fred S., contract surgeon, left Allegheny Arsenal, Pa., on leave of absence for ten days.

Warwick, Clarence A., contract surgeon, arrived from the Philippines Division on the transport *Warren*, for four months' leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Aug. 5, 1905:

Shipp, E. M., surgeon, orders to the *Charleston* revoked; ordered to the Navy Yard, New York, N. Y.

J. F. Leys and J. C. Thompson, surgeons, commissioned surgeons, with rank of lieutenant-commander, from March 3, 1903.

Furlong, F. M., P. A. surgeon, ordered to the Bureau of Medicine and Surgery, Navy Department.

Dessez, P. T., asst.-surgeon, ordered to the *Charleston*.

Ledbetter, R. E., P. A. surgeon, detached from the *Detroit* and ordered to the Naval Hospital, Boston.

Wise, J. C., medical director, detached from duty as a member of the Naval Medical Examining Board and Naval Retiring Board, Washington, D. C., August 10, and ordered to duty as president of the Naval Medical Examining Board, Naval Medical School, and to command Naval Medical School.

Marmion, R. A., medical director, detached from duty as president of the Naval Medical Examining Board, Naval Medical School, Washington, D. C., and from command of the Naval Medical School and ordered to duty as a member of the Naval Medical Examining Board and Naval Retiring Board, Mills Building, Washington, D. C.

Munger, C. B., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Marshall, E. R., asst.-surgeon, ordered to the Naval Hospital, Washington, D. C.

May, H. A., Asst.-surgeon, detached from the *Franklin* and ordered to the *Iowa*.

Sellers, F. E., acting asst.-surgeon, ordered to the *Franklin*.

Webb, U. R., P. A. surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Naval Academy.

Jennes, B. F., asst.-surgeon, detached from the *Iowa* and ordered home to wait orders.

Cole, H. W., asst.-surgeon, orders of July 31 modified: ordered to the Maine.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending Aug. 2, 1905:

Magruder, G. M., surgeon, designated as member of Revenue Cutter Service retiring board at San Francisco, Aug. 10, 1905.

Wertenbaker, C. P., surgeon, relieved from duty at Havana, Cuba, and directed to proceed to Tampa, Fla., Montgomery, Ala., and Atlanta, Ga., for special temporary duty.

Cumming, H. S., P. A. surgeon, designated as member of Revenue Cutter Service retiring board at San Francisco, August 10.

Corput, G. M., P. A. surgeon, relieved from duty at the Marine Hospital, New Orleans.

Currie, D. H., P. A. surgeon, department letter of July 1, 1905, granting leave of absence for two months from July 6, 1905, amended to read two months from July 18.

Goldberger, Jos., P. A. surgeon, to proceed to Vicksburg, Miss., and Shreveport, La., and other places in Mississippi and Louisiana, for special temporary duty.

Berry, T. D., P. A. surgeon, to rejoin station at New York, and then to proceed to New Orleans and to report to Surgeon J. H. White for special temporary duty.

Burkhalter, J. T., asst.-surgeon, leave of absence for one month on account of sickness, granted by bureau letter of July 17, 1905, revoked.

Wightman, W. M., asst.-surgeon, granted extension of leave of absence for seven days from August 9.

Spratt, R. D., asst.-surgeon, to proceed to Gulf quarantine station and report to medical officer in command for temporary duty.

Hallett, E. B., acting asst.-surgeon, granted leave of absence for four days from July 28.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for twenty-one days from August 7.

Marr, H., acting asst.-surgeon, granted leave of absence for twenty-one days, from August 21.

Sinclair, A. N., acting asst.-surgeon, department letter of July 10, 1905, granting leave of absence for thirty days from July 8, amended to read thirty days from July 12.

Williamson, S. D., acting asst.-surgeon, granted extension of leave of absence for twenty-two days, from July 31.

MacDowell, W. F., pharmacist, granted leave of absence for thirty days, from August 10.

Carlton, C. G., pharmacist, leave of absence for twenty-nine days, from July 24, 1905, revoked.

Morris, G. A., pharmacist, to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

BOARD CONVENED.

Board to meet at the Marine Hospital, Portland, Me., July 31, 1905, for the physical examinaton of an officer of the Revenue Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Acting Assistant Surgeon A. F. Stuart, recorder.

PROMOTIONS.

Assistant Surgeon M. W. Glover, commissioned (recess) as P. A. surgeon, to rank as such from April 13, 1905.

Assistant Surgeon B. H. Earle, commissioned (recess) as P. A. surgeon, to rank as such from April 13, 1905.

Assistant Surgeon C. C. Pierce, commissioned (recess) as P. A. surgeon, to rank as such from June 27, 1905.

Health Reports.

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the period from July 15 to July 29, 1905:

SMALLPOX—UNITED STATES.

California: Los Angeles, July 8-15, 4 cases.
District of Columbia: Washington, July 15-22, 1 case.
Illinois: Chicago, July 15-22, 11 cases, 1 death.
Indiana: South Bend, July 15-22, 1 case.
Michigan: Grand Rapids, July 15-22, 5 cases, 1 death.
Missouri: St. Joseph, July 8-15, 4 cases.
New York: Rome, July 15-22, 1 case.
Ohio: Cincinnati, May 19-June 2, 9 cases; June 8-23, 6 cases.
Pennsylvania: York, July 15-22, 11 cases.
Wisconsin: Appleton, July 15-22, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Colony, Cape Town, June 18-24, 3 cases.
Brazil: Rio de Janeiro, June 11-July 2, 32 cases, 21 deaths.
Chile: At Ports, June 14, present.
France: Lyon, July 2-9, 1 case; Paris, July 1-8, 10 cases, 1 death.
Great Britain: Birmingham, July 1-8, 1 case; Bristol, July 8-15, 1 case; Cardiff, 3 cases; Newcastle-on-Tyne, July 1-8, 5 cases.
Greece: Athens, June 24-July 1, 1 death.
India: Bombay, June 13-27, 19 deaths; Calcutta, June 10-17, 2 deaths; Karachi, June 11-25, 3 cases, 1 death; Madras, June 10-23, 5 deaths.
Italy: General, June 29-July 6, 8 cases; Catania, 3 deaths; Messina, June 25-July 2, 1 case; Palermo, July 1-8, 1 case.
Mexico: City of Mexico, June 24-July 15, 20 cases, 10 deaths.
Canada: New Brunswick, St. John, July 14, 1 case, imported.
Panama: Bocas del Toro, July 1-7, 1 case, imported.
Russia: Moscow, June 17-July 1, 9 cases, 6 deaths; Odessa, June 25-July 8, 10 cases, 1 death; St. Petersburg, June 24-July 1, 13 cases, 2 deaths.
Spain: Barcelona, June 1-10, 2 cases.
Turkey: Constantinople, June 18-25, 4 cases.
Venezuela: Maracaibo, June 6-July 2, 4 cases, 4 deaths.
West Indies: Grenada, June 15-29, 5 cases.

YELLOW FEVER—UNITED STATES

Florida: Tampa, July 28, 1 case.
Louisiana: New Orleans, July 21-26, 73 cases, 22 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, June 11-July 2, 84 cases, 40 deaths.
British Honduras: Belize, July 6-13, 1 case.
Honduras: Choloma, July 7, present; Puerto Cortez, July 1-17, 20 cases, 4 deaths; San Pedro, July 15, 200 cases; 15 deaths.
Mexico: Coatzacoalcos, July 9-15, 2 cases; Tierra Blanca, 3 cases, 1 death; Vera Cruz, 1 case, July 23-25, 4 cases.
Panama: Colon, July 2-11, 5 cases, 1 death.

CHOLERA.

India: Bombay, June 13-20, 3 cases; Calcutta, June 10-17, 8 deaths; Madras, June 17-23, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, East, London, June 3-24, 6 cases, 3 deaths; King Williams Town, June 17-24, 1 case.
Brazil: Rio de Janeiro, June 18-July 2, 6 cases, 2 deaths.
China: Hongkong, May 13-20, 20 cases, 19 deaths.
Egypt: General, June 10-24, 25 cases, 16 deaths.
India: Bombay, June 4-27, 221 deaths; Calcutta, June 10-17, 37 deaths; Karachi, June 11-25, 85 deaths; Madras, June 10-16, 1 death.
Japan: Formosa, May 1-31, 734 cases, 622 deaths, June 1-20, 213 cases, 184 deaths.
Peru: Callao, June 1-10, 1 case; Cerro de Paseo, 1 case, 1 death; Lima, June 1-10, 6 cases, 2 deaths; Mollendo, June 1-10, 1 case, 2 deaths.

Society Proceedings

AMERICAN ASSOCIATION OF LIFE INSURANCE EXAMINING SURGEONS.

Sixth Annual Meeting, held at Portland, Ore., July 10, 1905,

The President, DR. DENSLOW LEWIS, Chicago, in the Chair.

(*Concluded from Page 418.*)

The Recognition of Drug Addictions in Life Insurance.

DR. T. D. CROTHERS, Hartford, Conn., said that 30 per cent. or more of all alcoholics also take drugs. He divided the drug-takers into two classes, the simple and the complex, and gave a summary of some of the facts on which the recognition of drug addiction must turn. He believes that a careful examination of the sight, hearing, taste and smell will generally show the condition, notwithstanding the denials of the applicant, and that when psychologic studies of applicants for life insurance are made with as much minuteness as examinations of the heart, urine and blood, the hazardous risk of drug-takers as healthy normal persons will be eliminated.

DR. J. T. PRIESTLEY, Des Moines, thought that the insurance companies suffered more from the drug-taker than any other class of people.

DR. J. ALLEN GILBERT, Portland, thought too little attention was given to this phase of examinations and referred to a series of tests which he employed in examining the nervous system.

The address of the president, Dr. Denslow Lewis, Chicago, was on the subject: "The Medical Examiner and His Work."

Women as Risks.

DR. MAE H. CARDWELL, Portland, Ore., commented on the physical and moral conditions of women which make for or against their eligibility as risks in insurance. Until women have become financial independents they will never be equal factors for the consideration of the companies. Statistics of the life of the female should be created. The mortality in men from the effects of liquor is vastly in excess of that of women. Deaths from kidney infection through gonorrhea are as common among men as are deaths in women from the same infection of the generative apparatus. She strongly recommended that physical examination of women for insurance be extended to palpation and inspection of the pelvis, unless satisfactory evidence is given that the organs are healthy. Loyalty to the companies should prompt a warning to the applicants against habits which may develop disease, yet this warning may be exaggerated by a nervous woman. Suicide in business women is a danger to be considered.

DISCUSSION.

DR. H. G. BRAINERD, Los Angeles, thought the position of women as risks a question yet to be determined. It would add much to the willingness of companies to take such risks if it were known that the pelvic organs were in good condition.

DR. J. ALLEN GILBERT, Portland, insisted the pelvis ought to be examined.

DR. AMOS, Portland, spoke of the difficulty of finding the evidence of gonorrhea even when the disease is known to exist.

DR. W. J. MEANS, Columbus, said that in his experience in the examination of women for fraternal insurance he has found a lower mortality among women than among men.

DR. A. MERRILL MILLER, Danville, spoke of the difficulty of examining a woman at her home, and of the reluctance of a woman to submit to the ordeal of an examination when she realizes its extent.

DR. J. R. WETHERBEE, Portland, referred to the necessity for pelvic examination brought to his attention by operations. The conditions which caused the operations would have been revealed by a pelvic examination at the time insurance was issued.

DR. CARDWELL said that she believed a large majority of women would submit to pelvic examinations if the requirements were printed in the application. She does not feel that the drug habit is so important a question among women as that of suicide.

The Relation of the Life Insurance Examiner to Local Sanitation.

DR. J. R. WETHERBEE, Portland, said that the function of a physician as a life insurance examiner should not only be to report the facts concerning a given risk, but to see that the forces in his locality which tend to raise or lower the mortality receive attention. Few physicians know where the sewers of their respective cities empty their contents. In his opinion equal responsibility rests on the physician in the matter of educating the public in the prevention of tuberculosis. He called attention to combination policies which furnish indemnity against loss of health as well as loss of life on the same principles as fire insurance. Should this policy become universal, the responsibility of the insurance examiner for the local sanitary conditions would be even greater. Wetherbee attributed the reduction of mortality from typhoid in Portland to the introduction of absolutely pure water from the perpetual snows of Mt. Hood. From this standpoint alone much money is saved to the local life insurance companies.

DISCUSSION.

DR. DENSLOW LEWIS thought the amount of attention given by the public sanitarians not commensurate with the importance of the subject. He agreed with Dr. Wetherbee in his remarks concerning typhoid.

DR. JOHN S. LANKFORD, San Antonio, directed attention to the importance of educating the school children in matters of health. In San Antonio school children have studied the various stages of development of the mosquito and many have been killed by the children. Hence, malaria has greatly decreased. He believes that if the children are educated in this respect when they become citizens the sanitary conditions will be properly adjusted.

DR. M. H. CARDWELL, Portland, thought the hope of the people was entirely with the young, and that this work should be taken up by educational boards. The subject of ventilation as a preventive of disease should be studied by insurance companies.

Suppurations in the Temporal Bone, and their Practical Relation to Life Insurance.

DR. JOHN F. BARNHILL, Indianapolis, discussed the following phases: 1. What symptoms given by the patient and what pathologic conditions found in the diseased ear should be regarded as sufficiently dangerous to reject the applicant? 2. Under what circumstances as to the condition of the discharging ear may the applicant be considered a safe risk? 3. Under what conditions as to the diseased ear should the applicant's case be postponed, and when after medicinal or surgical treatment may insurance be safely issued? He believes that no just decision as to whether or not any applicant is non-insurable can be made unless there be taken into consideration the symptoms obtainable from the person himself, together with the absolute facts obtained from the most thorough, painstaking and accurate examination of the condition of the middle ear and its accessory cavities. There are many suppurating ears which may continue indefinitely, without serious risk to life. The deep cavities of the middle ear must be thoroughly inspected by an experienced aurist. In the present highly developed state of the otologic science there are but few discharging ears that can not be cured, and the patient, therefore, may become an entirely safe risk in so far as the ear condition is concerned.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held June 27, 1905.

The President, DR. DUDLEY TAIT, in the Chair.

Diaphragmatic Grooves on the Liver.

DR. R. O. MOODY stated that two classes of grooves occur on the liver, those running parallel to the ribs and apparently due to the impression left by the ribs on the liver, occurring most frequently in women who lace, and grooves running in the opposite direction, i. e., parallel to the falciform ligament, and which have been termed diaphragmatic grooves. These grooves are found in about 40 per cent. of bodies coming to

autopsy, usually on the upper and anterior surface of the right lobe. They may be simple or multiple, as many as nine being found on one of the cases reported. In form they vary from mere slits to more or less wide furrows, being one to eighteen millimeters deep and one and a half to eleven centimeters long. They occur with greatest frequency in old people, but they may be found even in the fetus, three of the latter class being on record. Among the causes believed to be responsible for these grooves are congenital changes in the diaphragm, constriction of the thorax or abdomen by tight clothing, irregularities on the diaphragm produced by such causes as diaphragmatic pleurisy or local peritonitis and a relatively too rapid growth of the liver for the size of the abdominal cavity, which throws the former into folds.

DR. GEORGE BLUMER stated that he had often noticed these folds at autopsy and that they seemed to occur more frequently in women than in men, especially in women who had laced.

DR. DUDLEY TAIT called attention to the importance of a knowledge of these grooves, because they may be encountered at exploratory operations.

The Relation of Hodgkin's Disease to Lymphosarcoma.

DR. H. W. GIBBONS called attention to the great confusion that has arisen in the literature relative to the nature of certain enlargements of the lymphatic glands. Lymphosarcoma is distinguished from Hodgkin's disease, clinically, by the fact that the growth does not remain confined to the lymphatic tissue, but tends to infiltrate the surrounding tissues. Reed, Longcope, and Simmons have shown that Hodgkin's disease is characterized by a definite microscopic picture, differing from the microscopic pictures of both glandular tuberculosis and lymphosarcoma. Of the nine cases studied by the speaker, all presented the typical microscopic characteristics of Hodgkin's disease, with this important exception, that in every case the capsules of some glands were found to be infiltrated by the new growth. In 5 cases the new growth had broken through the capsule into the surrounding tissue and was enclosed by a new capsule. In two cases, involvement of the muscle, salivary glands, and fascia, had occurred. In the liver, in three cases, the tumor could be observed invading the walls of a vein and passing through them. Gibbons regards Hodgkin's disease as a malignant process rather than as a chronic infection. Yet it is still distinguishable from true lymphosarcoma by the nature of the cells that make up the tumor.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Spastic Constipation.

The differential diagnosis between atonic and spastic constipation is often very difficult and sometimes impossible, according to A. Albu of Berlin in *Med. Record.*

Spastic constipation, so he states, is found more frequently the more carefully it is sought for. In the female, at least 25 per cent. of the cases are of this form; and many of the most persistent cases of chronic constipation, refractory to all methods of treatment, are of this type. As the treatment of this form of constipation is diametrically opposite to the atonic form, it is not difficult to see why so many patients with constipation are treated for years without success.

Spastic constipation, according to Dr. Albu, is most frequently found in neurasthenic and hysterical individuals, most often females. They are weak, poorly nourished, somewhat pale and anemic and in the third or fourth decade of life.

A perfect knowledge of the syndrome of the malady, therefore, must be obtained in order to outline an intelligent course of treatment.

As these spasms sometimes develop on the basis of atony, every occasion for exciting them must be avoided. Every irritation of the intestines, and especially massage, which is very effective in the atonic form of constipation, must be avoided. He recommends the use of:

1. Warm or hot sitz baths for from 15 to 20 minutes at a time.

2. The application of hot compresses to the abdomen, which not only lessen the spasm, but relieve the colic.

3. Warm enemas of linseed oil or olive oil, one-quarter liter every evening, given in bed, with the hips elevated, or in the knee-elbow position, and retained over night if possible. The object of this treatment is not to produce bowel movements, but to act as a sedative on the spasm of the intestinal muscle, and should, therefore, remain in contact with it as long as possible.

4. As the best antispasmodic he recommends belladonna or atropin, the former given in the form of suppositories in doses of from three to five grains (.20-.30) two or three times daily.

5. Concerning the diet, the author has found a vegetable diet to be the best; the food must be carefully freed from all shells or other irritating particles. Patients may be allowed to partake of all sorts of wheaten bread, made of fine flour, prunes and cooked fruits, soups and broths. Milk is advisable if it does not constipate.

Alcohol, spices, cabbage, cucumbers, celery, radishes, cheese and similar articles of diet must be avoided.

6. The introduction of solid, hard rubber or wooden bougies into the rectum. These are allowed to remain in position for from 10 to 15 minutes every day. They should be lubricated with oil and introduced for five or ten centimeters.

The author does not recommend long and continual rest in bed, because the primary atony is, in this way, favored. On the other hand, he recommends exercise in the fresh air. A regular fattening cure is recommended only in the debilitated and intensely hysterical patients, and after other treatment has failed.

The large dose of belladonna recommended by the author should be noted.

Diarrhea and Dysentery.

Diarrhea, according to Hare in his *Pract. Ther.*, may be divided into: 1. That form due to catarrh, acute and chronic.

2. That form due to disordered innervation.

3. That due to diseased glands along the course of the gastrointestinal tract.

4. That due to ulceration, causing irritation and bloody stools.

The treatment of the first form, according to this author, consists primarily in the regulation of the diet, which should be chiefly of milk, boiled or predigested, or milk whey. Castor oil or other mild purges, such as magnesium sulphate, should be administered to clear the intestinal tract of fermenting food and mucus. To prevent griping he recommends that a sufficient amount of tincture of opium be added, also twenty to thirty (1.30-2.00) grams of sodium bicarbonate to render the bowel alkaline in reaction. A mustard plaster or other counter-irritant should be applied to the abdomen. If astringent treatment is necessary, he recommends the following combination:

℞. Argenti nitratis ..... gr. ii |12
Ext. hyoscyami ..... gr. v |30
M. Fiant pil. No. x. Sig.: One pill three times a day.

Or

℞. Plumbi acetatis
Ext. opii, āā ..... gr. ii |12
M. Fiant pil. No. x. Sig.: One pill three times a day.

If the catarrhal state is persistent, no remedy compares to the ammonium chlorid in doses of grains five (.30) every four hours. It may be combined with licorice and water. If the catarrhal state is exceedingly chronic and obstinate, potassium iodid given in doses of from three to five grains (.20-.30) is of value.

If the discharges still remain profuse and the patient becomes weakened, the following is recommended by this author:

℞. Acidi sulphurici arom. ..... ℥iss 6|
Spts. chloroformi ..... ℥ii 8|
Tinct. opii camph. ..... ℥ii 60|
Syr. zingiberis q. s. ad ..... ℥iv 120|
M. Sig.: One desertspoonful every four hours.

Or

℞. Tinct. kino.
Tinct. catechu co., āā.....ʒi 30
Misturæ cretæ .....ʒiii 90
Aquæ cinnamomi q. s. ad .....ʒiv 120

M. Sig.: Shake well and take one tablespoonful every three hours.

The second form of diarrhea, in which serous and watery purging is present, is that form in which the blood vessels of the intestine are relaxed and leaking, so to speak, and must be contracted, and for this purpose the following is recommended:

℞. Acidi sulph. arom. .....ʒss 15
Olei cajuputi .....gtt. xl 2 | 65
Ext. hematoxyli flu. .....ʒii 8
Spts. chloroformi .....ʒi 4
Syr. zingiberis q. s. ad.....ʒiii 90

M. Sig.: One teaspoonful in water every two or three hours.

If the attacks are due to hepatic disorder, small doses of calomel should be administered to correct the inactivity of the liver and to clear out the intestinal tract.

The after-treatment consists in carefully regulating the diet, which should be composed of milk and milk foods.

The third class is found chiefly in children whose stools are fetid, green, spinach-like masses of half-digested food, and may be due to deficient glandular secretion. They are often cured by hydrochloric acid and pepsin. Powdered ipecac, grain ¼ to ½ (.015-.03) given three times a day is sometimes very valuable in this form of diarrhea.

The fourth type, dysentery, should be treated according to the cause. The intestinal tract should be cleared by calomel in full doses, unless contraindicated by great weakness of the patient. If the passages are slimy and bloody, 1/200 of a grain of the bichlorid of mercury every hour or two is of value. If much blood is preseent, high rectal injections of the following should be administered:

℞. Aq. hamamelidis dest.
Aquæ, āā .....ʒii 60

M. Sig.: Use as a rectal injection.

Or the following may be used as a rectal enema:

℞. Sodii boratis
Tinct. benzoini, āā.....ʒi 4
Spts. camphoræ .....ʒi 30
Aquæ .....Oii 1000

M. Sig.: Use as a rectal injection.

If ulcers are present and old, the following is recommended:

℞. Argenti nitratis.....gr. x-xx | 65-1.30
Aquæ destil .....Oi 500

M. Sig.: Use as a rectal injection.

A salt solution may be used to follow the silver solution and to counteract its effect if it should prove too strong. Where mucus and pus are present Hare recommends irrigations of mercuric chlorid, 1/5000, or, if preferred for any reason, boric acid may be substituted in proportion of dram one (4.00) to the pint of water (500).

Tannic acid may also be used in the same manner as an astringent in strength of dram one (4.00) to a pint of water (500).

In the ordinary diarrheas occurring in summer, the following is recommended:

℞. Acidi sulphurici arom .....ʒii 8
Tinct. opii .....ʒiss 6
Tinct. capsici .....ʒss 2
Tinct. card. co. .....ʒvi 24
Aq. menth. pip. q. s. ad.....ʒiv 120

M. Sig.: One tablespoonful four times a day in water.

When diarrhea is present unaccompanied by pain, the following is serviceable:

℞. Tinct. opii camphoratæ .....ʒi 30
Bismuthi subgal. .....ʒiss 6
Syr. zingiberis q. s. ad .....ʒii 60

M. Sig.: Shake the bottle well and take one teaspoonful after each bowel movement.

In cases of diarrhea with vomiting, the following may be employed:

℞. Bismuthi salicylatis
Sodii bicarb., āā.....ʒiii 12
Liq. morph. hydrochlor. (1 per cent.). ʒiss 6
Infusi calumbæ, q. s. ad.....ʒiv 120

M. Sig.: Shake well and take one tablespoonful every four hours until the symptoms are relieved.

Beasley recommends the following combinations, containing hematoxylin, in the treatment of the different forms of diarrhea:

℞. Cretæ prep. .....gr. xv 1
Pulv. tragacanthæ .....gr. ii | 12
Syr. simplicis
Tinct. Warburgii (N. F.), āā.....ʒss 2
Decoct. hematoxyli (5 per cent.) q. s. ad.ʒi 30

M. Sig.: At one dose and repeat three times daily.

[Warburg's tincture contains quinin gr. x (65) to the ounce (30), which is composed of aromatics.]

Or the following may be substituted for the foregoing combination:

℞. Bismuthi salicylatis .....gr. x | 65
Mucil. tragacanthæ .....ʒii 8
Decoct. hematoxyli, q. s. ad.....ʒi 30

M. Sig.: At one dose and the amount repeated once every four hours.

℞. Ext. hematoxyli liq. .....ʒss 2
Tinct. opii .....m. v | 30
Aquæ carophylli q. s. ad.....ʒi 30

M. Sig.: One such dose every four hours in cases of chronic diarrhea.

Or

℞. Creosoti .....m. ii | 12
Ext. hematoxyli liq. .....ʒi 4
Misturæ cretæ q. s. ad.....ʒi 30

M. Sig.: At one dose and repeat every four hours.

Medicolegal

Admissibility of Evidence from Operation After Trial.—The Supreme Court of Kansas says that the case of Bousman vs. City of Stafford was brought to recover damages for injuries received in a fall caused by a defective sidewalk. The jury found against the plaintiff, perhaps as the result of a belief that his injuries were purely imaginary. As alleged by him, they were internal, and of such a character that their existence and origin could at the time of the trial only be shown by his own statements and by the opinions of medical experts. The trial was ended May 27. On June 26, but at the May term of court, the plaintiff filed a motion for a new trial on the ground of newly discovered evidence, the character of which was not stated in the motion. In support of this motion, which was heard at the next term of court, in October, there was introduced an affidavit of a surgeon stating that on August 12 he operated on the plaintiff, opening the abdomen, and found that, as the result of an injury, an intestine had been ruptured and an abscess had formed, from which various complications had ensued. The pertinence and importance of this evidence were not disputed, but the city contended that it was not sufficient to require the granting of a new trial, because it was merely cumulative. The court, however, does not think so. It says that the physicians could only give their opinions as experts on a matter necessarily involved in some doubt. The surgeon told of a plain physical fact, about which there could be no mistake. His evidence was not of the same character as theirs, and was not merely cumulative to any of it. In other words, the court holds that the testimony of a surgeon that, in the progress of an operation involving the opening of the abdomen of a patient, he found an intestine ruptured, is not merely cumulative to that of a physician that on an external examination he concluded that such a rupture probably existed. Nor does the court agree with the objection made to the granting of the motion for a new trial that the court had no right to consider the affidavit of the surgeon, for the reason that it related to a fact that was not known to the plaintiff and could not have been known to any one at the time the motion for a new trial was filed. It holds that, on the hearing of a motion for a new trial on the ground of newly discovered evidence, the inquiry is not limited to matters known to the applicant or within his contemplation when the motion was filed, but may include, as well, any that have been developed since that time. Wherefore, it ordered a new trial.

Practice of Medicine by Corporations.—The Supreme Court

of Nebraska says that it was contended in State Electro-Medical Institute vs. State that said corporation had violated Chapter 55 of the Compiled Statutes of Nebraska of 1901, which is "An Act to Establish a State Board of Health, to Regulate the Practice of Medicine," etc. The particular provision which it was claimed had been violated was the one in Section 7: "It shall be unlawful for any person to practice medicine, surgery or obstetrics or any of the branches thereof, in this state, without first having applied for and obtained from the State Board of Health a license so to do." And the Supreme Court holds that, while a corporation is in some sense a person and for many purposes is so considered, yet it is not such a person as can be licensed to practice medicine. This corporation, therefore, not having a license, violated this law, if it practiced medicine, surgery, or obstetrics, or any of the branches thereof, within the meaning of the statute.

The statute, in Section 17, the court goes on to say, attempts to define what is meant by "practicing medicine:" "Any person shall be regarded as practicing medicine, within the meaning of this act, who shall operate or profess to heal or prescribe for or otherwise treat any physical or mental ailment of another." Exception is made of the "administration of ordinary household remedies" and in some other cases. The Supreme Court of Kansas has said: "The practice of medicine may be said to consist in three things: First, in judging the nature, character, and symptoms of the disease; second, in determining the proper remedy for the disease; third, in giving or prescribing the application of the remedy to the disease." Underwood vs. Scott (Kan.), 23 Pac. Rep., 942. There was no necessity of legislation to prohibit corporations, as such, from practicing medicine. It is impossible to conceive of an impersonal entity "judging the nature, character and symptoms of the disease," or "determining the proper remedy," or giving or prescribing the application of the remedy to the disease. Members of the corporation, or persons in its employ, might do these things, but the corporation itself is incapable to do them. The qualification of a medical practitioner is personal to himself. The intention of the law is that one who undertakes to judge the nature of a disease, or to determine the proper remedy therefor, or to apply the remedy, must have certain personal qualifications; and if he does these things without having complied with the law he is subject to its penalties. Making contracts is not practicing medicine. Collecting the compensation therefor is not practicing medicine within the meaning of this statute. No professional qualifications are requisite for doing these things.

In other words, the court holds that qualified and licensed physicians may form a corporation and make contracts for the services of its members and other licensed physicians. Making such contracts and furnishing services of qualified and licensed physicians thereunder is not a violation of said Section 7 forbidding the practice of medicine without a license.

It was urged that no one not himself licensed to practice can be beneficially interested in the practice of medicine, and that it is contrary to public policy, and therefore unlawful, for a person or corporation not competent to practice medicine to be beneficially interested in such practice and to be allowed to receive compensation for the services of one who is qualified. For the discussion of this question the court refers to the companion case of State Electro-Medical Institute vs. Platner, decided the same day, which, however, is "not to be officially reported," but may be found in the advance sheets of 103 Northwestern Reporter, 1079. In this latter case the court says that the construction that no person may profit by or enforce an agreement for the practice of medicine, except he is qualified and licensed for the practice of the profession, would prevent action in the name of any assignee of a physician's claim for his services, whether such assignee might be a corporation, a copartnership, or an individual.

Again, the court says that a hospital which is controlled by a corporation, and which receives patients, and contracts to care for them and to furnish them with medical attendance, does not, by so doing, practice medicine within the meaning of this act. Whether a physician who allowed a corporation to make contracts for his services such as he might not make, or who associated himself with and practiced in pursuance of contracts made by corporations that indulged in conduct that would be unprofessional if done by a physician, might himself be made responsible for these acts of the corporation, and so subject himself to the penalties of this act, it was not necessary in this case to decide. The contract in question was signed by the "Physician in Charge." He woud seem to be as much responsible for this contract, and his own action under it, as if he had executed the contract in his own name. Would the same be true of any physician who, being in the employ of the corporation, should practice medicine pursuant to this contract? The court passes this question also without an answer in this case. If further legislation is necessary to regulate and control the conduct of such corporations, and of physicians connecting themselves with such corporations, the argument, it says, should be addressed to the Legislature. The court can not derive such legislation from any public policy indicated by the provisions of this act.

It was further suggested that one of the grounds for revoking the license of a practicing physician is unprofessional conduct, in the betrayal of professional secrets, and that there is no restriction on a corporation that might obtain such secrets and betray them. The court answers that such secrets are imparted for the purpose of enabling the physician who treats the patient to understand the nature of his disease and to determine the best course of treatment. No self-respecting physician would encourage the curiosity of his clerks or assistants in attempting to discover the secrets of his patients; and if he participated in such conduct, or knowingly consented to its exercise, he might furnish grounds for the revoking of his license. If the patient saw fit to divulge his secrets to the assistants or agents without the knowledge of the physician, he would be supposed by so doing to indicate his willingness that they be published to the world.

Current Medical Literature

American Medicine, Philadelphia.

July 29.

1 *Epigastric Linea Alba Hernia as a Little Recognized Source of Abdominal Pain and of Gastric Symptoms. D. D. Stewart, Philadelphia.
2 *Phthiriasis. J. Knott, Dublin, Ireland.
3 Meningitis: its Symptomatology, Diagnosis and Treatment. S. MacCuen Smith, Philadelphia.
4 *Regional Analgesia in the Surgical Treatment of Anorectal Diseases. J. R. Pennington, Chicago.
5 *Urethrorectal Fistula. W. M. Beach, Pittsburg, Pa.
6 Hematoma of the Sternomastoid Muscle. J. L. Manasses, Philadelphia.

1. **Epigastric Linea Alba Hernia.**—The importance of this hernia as a source of gastric symptoms, says Stewart, has received too little attention from physicians. These hernias are small, sometimes barely perceptible to the eye, and in other instances fairly evident on inspection. Symptoms are usually referred to the stomach, whence a diagnosis of some form of gastric disorder, gastritis, gastralgia, and even gastric carcinoma or gallstone may be made by the unwary. The apparent triviality of the protrusion, even if it does not escape recognition, often does not suggest itself to the physician as a likely source of the malady.

2. **Phthiriasis.**—Knott has made the occurrence of some striking cases of phthiriasis in his practice the nucleus of an extremely interesting and exhaustive account of the various aspects of this condition. This disease (morbus pediculosus vel pedicularis) has figured more largely than probably most readers are aware, not only in clinical history, dermatology and pathology, but in general phrase and fable, in political history, in imperial and ecclesiastical biography, in orthodox theology, and in the endless mazes of heathen mythology. Knott's paper contains the principal available items from all these sources of information—and imagination, and offers interesting as well as instructive reading. Some of the pedicular lore is certainly very fantastic, and throws a strange light on some of the byways of human thought. In his concluding sentence he offers "the opinion that the scientist who succeeds in plucking out the heart of the mystery of the triplex 'natural selection' topographically displayed in the life history of human pediculi will have done more toward establishing a true theory

of parasitic and infectious disease than has hitherto been reached by bacteriologic pathology." This statement of opinion implies that the writer is not satisfied with the "germ theory" as understood at present.

4. See article by Pennington in THE JOURNAL, April 8, 1905, p. 1093.

5. See abstract in THE JOURNAL, July 8, 1905, page 128.

Medical Record, New York.

July 29.

7 *Clinical Suggestions from the Study of 500 Cases of Pulmonary Tuberculosis. H. P. Loomis, New York.
8 *Suggestions for Reducing the Prevalence of Summer Diarrhea in Infants. T. S. Southworth, New York.
9 *History and Basis of Dietetic Methods in Typhoid. J. B. Nichols, Washington, D. C.
10 *Animal Remedial Preparations. J. W. Wainwright, New York.
11 *Hypodermic Use of the Salicylate of Mercury in the Treatment of Syphilis. E. F. Kilbane, New York.
12 Carcinoma of the Male Breast Cured by the Roentgen Ray. S. Tousey, New York.
13 Presentation of a Portrait of Dr. Andrew Heermance Smith. G. L. Peabody, New York.

7. **Pulmonary Tuberculosis; Clinical Suggestions.**—Loomis presents the results of careful clinical study of 500 cases of pulmonary tuberculosis which illustrate the disease in all its phases as occurring in every walk of life. In 80 per cent. of 100 selected cases the first presumable evidence of the disease was as follows: In 48 per cent. the first symptom of any pulmonary trouble was a cough which ran for weeks or months. In 20 per cent. of these cases the cough was not accompanied by any expectoration. In 18 per cent. the first evidence of disease was loss of flesh, associated with a general "run down" condition. Sixteen per cent. of the cases gave a definite history of having had at some time one or more attacks of pleurisy, from which they recovered, and which were followed by periods of perfect health. The average length of time which elapsed between the first attack of pleurisy and the actual development of the disease was three and a half years. In the first two groups the average time the condition lasted before the disease developed was five and one-half months. In the remaining 20 per cent. of cases the pulmonary condition followed grippe, malaria, pneumonia, enlarged lymph glands, and hemoptysis. Loomis is convinced that the great majority of patients who apparently develop pulmonary tuberculosis after 30 years of age have had an attack of the disease before; often so slight that it was overlooked, or they recovered so rapidly, owing to climatic advantages, that they questioned whether they ever had it, and unless a very careful history is obtained, the fact is never mentioned, or is overlooked, and the condition for which they come under observation is believed to be the beginning of their pulmonary trouble. Among the features of value in making a prognosis are the general vitality of the patient, his personal and family history; age (between 25 and 30 being especially favorable); character, intelligence, and disposition of the patient; condition of the digestive functions. Whether one lung or more than one is involved does not seem to be a very important element in prognosis. Fever, hemorrhages, expectoration and tubercle bacilli in the sputum are of little value in prognosis. An analysis of 55 "cured" sanatorium cases showed that the average age was high—29, and that the long-lived ancestry of the patient was of special importance; whereas a tuberculous family history was of less importance. The average length of life among the tuberculous poor, with no advantages of rest or good food, is a little under two years.

8. **Suggestion for Reducing Summer Diarrhea in Infants.**—Southworth says that suitable prophylactic measures should date from the birth of the child, and one of the most important is breast nursing. If the secretion of milk be scanty, it should be used for part of the feedings at least, and every effort should be made to encourage the flow. Errors in weaning, neglect of apparently mild attacks of diarrhea, and the common diagnosis of teething used as an excuse for any evidence of illness are factors that must be combated. Only through personal, painstaking instruction of the masses can the desired end be accomplished.

9. **Feeding in Typhoid.**—Nichols urges that typhoid patients should be given a more varied and more abundant diet than is now customary. He takes the ground that the adoption of milk as the chief article of food for such patients has no logical justification. While it is a complete food for infants, it is not adapted for the exclusive nourishment of adults, except in amounts that are practically prohibitive. The present method of feeding in typhoid has developed in a way that seems largely empirical, and the history of the dietetic treatment of fevers, which is reviewed in full by Nichols, shows a progressive advance from a starvation regimen in the direction of a more and more liberal diet.

10. **Animal Remedial Preparations.**—Wainwright contributes an exhaustive paper on the various glandular and other animal extracts which have lately come into use in therapeutics.

11. **Hypodermic Use of Salicylate of Mercury in Syphilis.**—Kilbane recommends this treatment for trial in every case of syphilis in which the administration of mercury is indicated for a long period of time.

Medical News, New York.

July 29.

14 *Bacterial Content of the Railway Coach. J. J. Kinyoun, Glenolden, Pa.
14½ *Cure of Leprosy. I. Dyer, New Orleans, La.
15 Primary Sarcoma of the Stomach. M. Manges, New York.
16 Cystic Kidney and Liver. H. A. Reque, Chicago, Ill.
17 *Comparison of Methods of Lavage with the Siphon Tube and Politzer Bulbs. J. P. Sawyer, Cleveland, Ohio.

14. **Bacterial Content of Railway Coaches.**—Kinyoun details the experiments conducted by him for the purpose of determining the bacteriology of railway coaches. The only fact which seems to have been proved in this investigation was that 73 per cent. of the animals inoculated with material taken from the coaches gave only negative results, thus demonstrating that the bacterial content of the railway coach, in the majority of instances examined, was not infectious to animals.

14½. **Cure of Leprosy.**—Dyer believes that leprosy is curable in the same sense that syphilis and tuberculosis are curable. No patient treated by him has failed to respond to the treatment; amelioration occurs invariably, and when treatment has commenced early enough and has been kept up long enough a certain number of patients have recovered. The only remedies giving results were strychnin, antivenomous serum, chaulmoogra oil, and chlorate of potash. He believes that the oil more nearly approximates a specific for leprosy than any treatment as yet suggested. Full diet, restricting only indigestible foods, is indicated. The disease seems in no wise to be affected by fish or any other particular article of diet. Baths are essential in the treatment. Hot baths twice a day, with or without soda, are effective. The patient needs tonics and febrifuges, and should be watched for intercurrent or complicating diseases, such as malarial infection, pleurisy, pneumonia, grippe, and the like. Strychnin is a *sine qua non* in the treatment of leprosy. A leper should always take strychnin. When chaulmoogra oil is given, it is better endured before meals than after. It is best taken in capsules, in hot milk, or in milk of magnesia. The dosage should be small at first, say 3 drops, and increased every second or third day until from 120 to 150 drops of the oil are taken at the dose. At times it is advisable to give the oil in pill form. This can be done by combining it with extract of nux vomica and ordinary excipients, or, a very effective way, with tragacanth and common soap. Above all things, individualize the patient. Watch for improvement, and if it does not show in three months wait six months—if it does not show in six months, wait a year, or longer. But keep on driving at the treatment until the patient dies or gets well. Dyer has on record one patient who did not show any signs of improvement for two years, but who is now well. When all evidences of the disease are gone, insist on a continuance of treatment. It may not be necessary, but it makes sure.

17. **Lavage with Siphon Tubes and Politzer Bulbs.**—Sawyer favors the use of the simple Politzer bulb with the glass connection fitting into bulb and tube. The food residue having been aspirated as completely as possible with an empty bulb, a bulbful of solution, medicated as desired, is introduced slowly into the stomach, and free, active manipulation of the anterior abdominal wall over the region of the stomach is used with sufficient energy, sometimes also shaking the posterior

surface of the stomach, especially in conditions of atony or ectasia without ptosis. By this is produced a considerable movement of the liquid within the stomach useful for thorough cleansing and bringing the drug in close contact with the cleansed membrane. Then Sawyer allows the contents to be withdrawn in the aspirator which has been controlled by pressure with the hand till this time, and cleansing of the viscus can be accomplished more thoroughly, in less time, with less fatigue to the patient, than can be accomplished by the use of the siphon tube. That the whole quantity used as a wash is withdrawn is seen by the filling of the bulb. The patient is freed from efforts at expression, and lying as quietly relaxed as possible gains much in comfort. Sawyer draws especial attention to the advantage in lavage of having the patient reclining with loosened clothes, and then making use of free manipulation of the stomach wall to secure a more thorough cleansing and the more thorough application to the mucous membrane of suitable solution chosen for direct medication. In this fashion all the solutions used may be employed with a reasonable certainty that all portions of the stomach membrane are reached in the treatment and that all of the solutions injected are withdrawn.

Boston Medical and Surgical Journal.

July 27.

18 *The Surgeon and the Pathologist. A Plea for Reciprocity as Illustrated by the Consideration of the Classification and Treatment of Benign Tumors of the Breast. J. C. Warren, Boston.
19 *Fractures and Their Treatment. F. J. Cotton, Boston.
20 *Contribution to the Study of Spinal Surgery. G. L. Walton and W. E. Paul, Boston.
21 Duties of the State with Reference to Epileptics. M. Mailhouse, New Haven, Conn.

18. See JOURNAL, July 15, 1905, page 149.

19. **Fractures and Their Treatment.**—Cotton presents a general review of the treatment of fractures and lays special stress on the following points: (a) A better recognition of the advantage of early mobilization will give better functional results. (b) A review of position (with *x*-ray, if possible) should be a routine at a time when correction is still readily possible by open if not by closed methods. (c) Many bad end-results of fractures are remediable by operation; such operations under proper conditions are devoid of any considerable risk, and the field for such corrective operations has increased and is still increasing with greater experience and wider knowledge of the results obtainable.

20. **Spinal Surgery.**—In the first of the two cases reported by Walton and Paul the clinical picture was that of severe pain in the neck and arm, accompanied by local wasting, numbness and loss of power in the arm, and by rigidity of the neck. Operation disclosed a myeloma involving the laminæ and pressing on the dura in the lower cervical region; its removal was followed by relief of pain and rapid improvement of motor and sensory symptoms. In the second case, pain centering in the right arm, accompanied by a modified Brown-Séquard paralysis of gradual onset and rapid progression, led to the diagnosis of tumor pressing on the cord unilaterally in the lower cervical region. Removal of the vertebral arches failed to disclose the tumor, which on autopsy was found to project posteriorly from the anterior wall of the spinal canal at the level of operation. The authors believe in giving the benefit of the doubt to operation in all these cases, for the following reasons: First, there is the bald fact that without interference a hopeless prognosis must be given; second, in ruling out operation, the patient and the family are refused a legitimate attempt to ameliorate discomforts if not to effect a cure; third, if out of many operations, one only is successful, the result, it seems to us, justifies the endeavor; fourth, if selected patients only are operated on, there is great danger that the present limitation of our diagnostic criteria would cause us to overlook the case in which operation would have been most brilliantly successful.

New York Medical Journal.

July 29.

22 Treatment of Pott's Disease and of Rotary Lateral Curvature, by the Plaster-of-Paris Jacket and the Aluminum Corset. (To be continued.) C. Ogilvy, New York.
23 *How to Palpate a Movable Kidney. C. D. Aaron, Detroit, Mich.
24 *Further Contribution to the Study of Pruritus Ani, with Special Reference to Its Local Treatment. L. H. Adler, Philadelphia.
25 *Simulation of Appendicitis by Cholelithiasis. G. G. Lempe, Albany, N. Y.
26 *Case of Lithemic Gangrene, a Contribution to Haig's Uric-Acid Theory. N. Rosewater, Cleveland, Ohio.
27 Suggestions on the Treatment of Morbid Psychic States. W. L. Howard, Baltimore, Md.
28 Case of a Cyst and Hydrocele of Canal of Nuck. B. S. Talmey, New York.
29 Six Lectures on Diseases of the Blood. J. M. Swan, Philadelphia.

23. **How to Palpate a Movable Kidney.**—Aaron says that bimanual palpation is always necessary in palpating a movable kidney. The hand over the lumbar region forces the organ forward, while the hand on the abdomen gently presses toward the hand on the back. It must be remembered that firm pressure is the rule for the hand on the back. To palpate for a movable kidney, he usually places the patient in four different positions: 1. Standing, while manipulator sits on a chair. 2. Standing, while manipulator stands. 3. Lying on back, while manipulator sits on edge of couch. 4. Lying on either side, depending on kidney palpated, while manipulator is sitting.

24. See abstract in JOURNAL, July 8, 1905, page 128.

25. **Simulation of Appendicitis by Cholelithiasis.**—Lempe reports a case of cholelithiasis which previously had been diagnosed as appendicitis and was treated as such.

26. **Lithemic Gangrene.**—Rosewater reports the case of a man, aged 64, emphysematous, rheumatic, suffering with asthma and bronchitis, with a history of superficial gangrene, who was treated for gangrene of the anterior right tibial surface by elevation, antisepsis, heat and a lacto-cereal diet. He was discharged, cured, in six weeks, but was advised to continue the diet. Every indiscretion in eating was followed by some disturbance, such as pruritus and gangrene. On strict observance of the diet he remained well. The author believes that the history of this case, lithemic stigmata, deviation from normal each time uric acid or purin food was added (each time only one incriminating article) and the patient's return to and maintenance of normal health when strictly on the diet is as diagnostic of lithemia and as justifiable as would be potassium iodid and mercury for lues.

Lancet Clinic, Cincinnati.

July 29.

30 Hysteria—A Lecture. P. Zenner, Cincinnati.
31 Early Diagnosis of Cancer of the Body of the Uterus. R. B. Hall, Cincinnati.

Brooklyn Medical Journal, New York.

July.

32 Dr. Homer L. Bartlett; An Address. J. E. Sheppard.
33 The Teaching of Anatomy. W. F. Campbell, Brooklyn, N. Y.
34 *A Freak Case of Appendicitis. L. L. Nichols.
35 Clinical Types of Puerperal Infection. J. O. Polak.
36 Some Cases of Mental Deficiency in Children. Le G. Kerr.
37 Artificial Feeding of Infants. A. D. Smith.

34. **Freak Case of Appendicitis.**—The case reported by Nichols presented the usual symptoms of an attack of appendicitis—the catarrhal variety. Calomel and a saline were ordered, and the patient improved considerably, so that the operation which had been arranged for was postponed. One week after the beginning of the attack, the patient passed a very restless night, complaining of discomfort and tenesmus. In the morning there were several loose stools, one of them containing a very much attenuated appendix about two and a half inches long, with a perforation at the distal end. After his auto-operation, the patient made a rapid and uneventful recovery. Microscopic examination of the tissue showed it to be the appendix, but it was absolutely necrotic.

Medicine, Detroit, Mich.

June.

38 *New Method of Obtaining Rectangular Flaps for Transference with a Pedicle. W. W. Babcock, Philadelphia.
39 Case of Amyotrophic Lateral Sclerosis with Bulbar Symptoms. J. Grinker, Chicago.
40 Extrauterine Pregnancy. C. C. Rogers, Chicago.
41 Teaching of Hygiene in Colleges and Normal Schools. E. Egbert, Philadelphia.
42 Value of Protargol in the Treatment of Gonorrheal Conjunctivitis. F. C. Hotz, Chicago.
43 Etiology and Pathology of Gastric Ulcer. J. McFarland.

38. **Rectangular Flaps for Transference with Pedicle.**—Babcock's method consists in forming two rectangular flaps, having a width at least one-third wider than the part to be covered, and a combined length about one-third greater than the greatest diameter of surface to be covered. These are formed

in the following manner: A straight incision is made equal to the combined length of the flaps to be raised. Parallel to the first incision and at a distance equal to the width of each flap to be formed, two secondary incisions, one on either side of the original incision, are made. On one side a second incision is placed opposite the upper half of the first incision, while the third incision is made on the other side of the first incision and parallel to its remaining half. By uniting the distal ends of the last two incisions with those of the first, two flaps are formed, which are then raised, leaving two lines of parallel and equidistant wound edges. These are then united in a linear manner, the bases of the flaps being slid by each other until they become exactly opposite. There now remain two linear incisions, at the proximal ends of which are attached the bases of the two flaps with raw surfaces outermost, ready for attachment to the surface to be covered. These surfaces are prepared for grafting in the usual manner, and the limb with the grafts is superimposed on the surface to be covered. The grafts are then fastened to their new position by interrupted or continuous sutures, and the folds at the pedicle of the grafts protected from angulation and pressure by properly applied padding of sterile gauze. At the end of from five to ten days, when the grafts have acquired a sufficient circulation from their new bed, the two pedicles are divided and the limbs separated, leaving a short transverse incision on each limb. It is important that the retentive dressing affords absolute support, so that there be no undue pressure between the opposing surfaces, and that adequate fixation, absolutely preventing any displacement, be provided.

St. Paul Medical Journal.

June.

44 Time as an Element in Abdominal Surgery. M. H. Richardson, Boston.
45 *Subparietal Injuries of the Abdomen. C. J. Holman, Mankato.

45. **Subparietal Injuries of Abdomen.**—Holmes says that it would seem as though, with a patient, who had received a severe blow in the abdomen, having pain and tenderness on pressure, and with rigidity or spasm of the abdominal muscles, exploration should be advised. If the patient should survive the traumatic peritonitis, there would still be cicatrices and adhesive bands that would require subsequent repair. The degree of violence of the vulnerating body is not necessarily in proportion to the injury produced, because Nature has many means of protecting the abdominal viscera. If the surgeon waits for positive symptoms of hemorrhage and infection, the exploration will be too late and useless. Since the introduction of modern methods in the treatment of shock, i. e., salt solution, hot water, operating tables, etc., speed is not of as great moment as thorough work.

Journal of Cutaneous Diseases, New York.

June.

46 Acrodermatitis Chronica Atrophicans. C. Herxheimer, Frankfort-on-Main, Germany.
47 *Trichorrhexis Nodosa. M. L. Heidingsfeld, Cincinnati.
48 Creeping Eruption. J. B. Shelmire, Dallas, Texas.

47. **Thichorrhexis Nodosa.**—Heidingsfeld reports one case of this affection. He says that it is universally present in long, uncut hair as a normal condition and is probably Nature's method of physiologically arresting and stunting an otherwise unlimited and eventually cumbersome overgrowth of hair. When present to excess in a predisposed individual, it becomes a pathologic process and abnormally stunts the growth of hair; the nodes are more prominently wounded and are often multiple, separated from each other by uniform intervals of normal hair shaft. Its etiology has been variously attributed to trophic, parasitic and mechanical influences. A mechanical causation is improbable on purely clinical grounds, and it is incapable of artificial demonstration. The condition in brushes can likewise not be attributed to purely mechanical causes. A parasitic causation is not commensurate with the evidence thus far adduced from clinical studies and bacteriologic investigations. The most rational explanation of its etiology from physical, bacteriologic and clinical investigations, and its analogy to kindred and associated changes in the hair rests in trophic influences, emanating from the metabolism at large, and permeating the hair to its ultimate extent.

Bulletin Johns Hopkins Hospital, Baltimore, Md.

July.

49 Contribution to the History of Medicine in Maryland During the Revolution, 1775-1779. W. R. Steiner, Baltimore.
50 Situs Transversus and Atresia of the Pylorus. H. M. Little and H. F. Helmholz, Baltimore.
51 *Case of Congenital Urethral Stricture Associated with Hematuria and Symptoms Suggesting Renal Disease. J. W. Churchman, Baltimore.
52 Synesthesia. H. L. Smith, Baltimore.

51. **Congenital Urethral Stricture Suggesting Renal Disease.**—The interesting features of the case reported by Churchman can be summarized as follows: The patient presented a urethral stricture in which a positive diagnosis of its congenital nature could be made. Such a diagnosis was warranted by: (a) The history, from which all record of urethral traumatism or of venereal infection was absent. (b) The association of an obvious congenital stricture at the meatus. (c) The complete cure of the clinical manifestations by proper treatment of the stricture. (d) The presence of clear urine and the absence of symptoms after the actual stricture had been dilated. The second point of interest was offered by the clinical symptoms presented. These were nausea and vomiting, hematuria, and pain over the left ureter. They suggested renal or urethral disease, and obscured the diagnosis which was really only cleared up by the therapeutic test. In the third place, this case suggests that another item must be added to our already long list of causes for hematuria, and that congenital stricture may be associated with blood in the urine, the source of which may probably be an hypertrophied verumontanum.

Laryngoscope, St. Louis, Mo.

June.

53 *New Technic for the Submucous Resection of the Cartilaginous Septum—Swivel Septum Knife. W. L. Ballenger, Chicago.
54 Pseudokousma. F. H. Koyle, Hornellsville, N. Y.
55 Acute Mastoiditis, Septic Infection of the Sigmoid Sinus, Phlebitis of the Internal Jugular in a Child; Recovery Without Operation. W. C. Braslin, Brooklyn, N. Y.
56 Surgery of Otitic Brain Abscess. J. F. Barnhill, Indianapolis, Ind.
57 *Passing of the Galvanocautery in the Treatment of Diseases of Nose. W. S. Anderson, Detroit, Mich.
58 Case of Melanotic Sarcoma with Manifestations in the Nose, Nasopharynx, Mouth, Pharynx and Larynx. W. C. Phillips, New York.
58 Unusually Large Fibrous Postnasal Polyp. Wm. W. Carter, New York.
60 Two Interesting Cases, One of Curious Laryngeal Lesion and the Other an Unusual Form of Stammering. G. H. Makuen, Philadelphia.
61 Falsetto or Eunuchoid Voice. H. Dupuy, New Orleans.
62 Case of Melancholia Relieved by Ethmoidal Operation. Wm. B. Shields, St. Louis, Mo.
63 *Safe and Adequate Method for Opening Retropharyngeal Abscesses in Children. E. L. Melerhof, New York.
64 Spontaneous Hemorrhage from an Inflamed Tonsil. G. F. Keiper, Lafayette, Ind.
65 Case of Idiopathic Hemorrhage in the Middle Ear. C. P. Linhart, Columbus, Ohio.
66 Plan to Avoid Heating the Mirror of the Laryngoscope. C. Graef, New York.

53. **Submucous Resection of Cartilaginous Septum.**—The essential feature of this operation is the instrument used in its performance—the swivel septum knife—devised by Ballenger. The swivel blade of the knife is pivoted to the extremities of the tuning-fork-like prongs of the instrument and swings in a circle. By the resistance of the cartilaginous tissue through which the knife passes, it may be made to cut in any direction in which the distal ends of the prongs are directed. If the prong tips are made to describe a perfect circle, the blade will follow and excise a circular disc of cartilage. The technic of the operation performed by Ballenger is after the Menzel-Hajek method, with the exception of the removal of the cartilage, which is removed in one piece with one cut of the swivel knife. Using a special mucosa knife devised by himself, Ballenger makes a curved incision in the septal mucosa about one inch in length, beginning near the floor of the nose and curving forward and upward as high as possible through the vestibule of the nose and about one-fourth inch posterior to the anterior margin of the cartilage. The incision is made on the left side of the septum, regardless of whether this be the convex or the concave surface, because it is convenient to use the knife with the right hand while the forefinger of the left is inserted into the right nostril. Having made the curvilinear incision through the muco-perichondrium, he resorts to the semi-sharp

elevator of Hajek to elevate the anterior portion of the muco-perichondrium from the septum, after which Hajek's blunt elevator should be used. With a bistoury the incision is carried through the cartilage to the perichondrium of the opposite side. The perichondrium is lifted from the cartilage and the prongs of the swivel knife are then introduced through the incision. The instrument is directed backward, parallel with the floor of the nose, until the posterior limit of the cartilage is reached, when it is directed upward and forward, following the outline of the anterior end of the perpendicular plate of the ethmoid to the bridge of the nose, when it is pulled downward, parallel with the bridge of the nose, to the upper extremity of the curvilinear incision. In this way almost the entire septum is removed, except the anterior tip which is to support the tip of the nose. The excised cartilage is removed with a pair of dressing forceps. This method is simple, is devoid of traumatism and shock, can be done in a few seconds, will not result in laceration or perforation of the muco-perichondrium, and the entire cartilage can be removed in one piece, being available for thorough inspection.

57. **Galvano-cautery in Nasal Affections.**—Anderson protests against the use of the galvanocautery as a routine measure in the treatment of nasal diseases. In cases where there is an engorgement of the turbinal, and where under cocain the tissue shrinks to a marked degree, submucous puncture is a simple and efficacious method of treatment. In true hypertrophy, when simple submucous puncture is not sufficient, the flap operation is most satisfactory. The use of the cautery for severing adhesions or false membranes can be discarded and better results obtained by making flaps of tissue to cover the denuded surface, thus preventing the formation of synechiæ. Rather than to cauterize the base of polypi, it is better to curette thoroughly. In cases of hemorrhage from the nose it is better to apply adrenalin, and then to pack the nose carefully with subnitrate of bismuth lint, than to use the cautery. In the treatment of hypersensitive areas in the nose in certain neuroses of nasal origin the cautery has a place, but even here it should be used carefully. The aim should be always to destroy as little mucous membrane as possible, to avoid the formation of adhesions, and the occurrence of ulceration.

63. **Safe Method for Opening Retropharyngeal Abscesses in Children.**—To overcome the time element and to make an adequate opening for free drainage, Meierhof recommends the use of a pair of dressing forceps of the length best suited to free manipulation and which are bent on the flat, with the beaks somewhat curved and moderately pointed. The child is seated in an upright position on the knee of an assistant, who places one hand on the child's forehead and encircles its arms and body with one arm. The moment the abscess is entered with the forceps the assistant throws the child's head and body forward; while in this position the forceps are withdrawn with the blades open, thus allowing the abscess to be thoroughly evacuated and good drainage established.

Therapeutic Gazette, Detroit, Mich.

June 15.

67 Use of Diphtheria Antitoxin in the Treatment of Cerebrospinal Meningitis. M. E. Pennington, Philadelphia.
68 *Use of Specific Products of Tubercle Bacilli in the Treatment of Tuberculosis. J. Sawyer, Asheville, N. C.
69 Intestinal Perforation in Typhoid Fever. F. C. Wright, Grove City, Ohio.
70 Cryptogenetic Septicopyemia. J. L. Salinger and G. Walters, Philadelphia.
70½ Treatment of Pneumonia. H. A. Hare, Philadelphia.

68. **Serum Therapy of Tuberculosis.**—Of eleven patients treated by Sawyer with the watery extract of tubercle bacilli for periods varying between 1 and 3 months, more or less marked improvement, local as well as general, was evident in each case, at times to such a degree that the patient believed himself justified in discontinuing the treatment. The degree of such improvement stood in relation to the time of treatment and the dose of the serum. Fourteen other patients, in whom the treatment was completed, made a satisfactory recovery. The tuberculin test was negative in each case after the treatment was stopped. There was no doubt about the diagnosis.

Southern California Practitioner, Los Angeles.

June.

71 Physician and Patient. G. Dock.
72 History of Medicine. J. P. Widney, Los Angeles.
73 *Treatment of Erysipelas by Streptolytic Serum. Wm. S. Smith, Prescott, Ariz.
74 Test of Public School Children—Imagery—Reaction Time—Memory Tests. G. L. Leslie, Los Angeles.
75 Diseases of Women and Children. W. A. Edwards.

73. **Streptolytic Serum in Erysipelas.**—Smith reports ten patients with erysipelas treated with streptolytic serum. In from twelve to twenty-four hours the temperature dropped to normal, the pulse became slower and the headache was relieved. The swelling subsided in from 24 to 48 hours. No other treatment was used.

Medical Recorder, Chicago.

July 15.

76 *Operative Treatment of Empyema of the Antrum of Highmore. O. T. Freer, Chicago.
77 Office Examination of Human and Cow's Milk. R. C. Whitman, Chicago
78 Newer Methods in Use in the Diagnosis of Ureteral and Renal Diseases. L. E. Schmidt, Chicago.
79 *Report of Five Cases of Tuberculosis of the Knee Joint. J. Ridlon, Chicago.
80 Syphilis of the Knee Joint. J. L. Porter, Chicago.
81 Pin Worms as a Cause of Appendicitis. D. F. Monash, Chicago.
82 Blood Analysis in Infections. C. Hill, Chicago.
83 Case of Raynaud's Disease with Rheumatoid Arthritis. J. Grinker, Chicago.
84 Technic of Mechanical Massage in the Treatment of the Throat, Nose and Ear. M. R. Brown, Chicago.

76. **Operative Treatment of Antral Empyema.**—After a brief review of the anatomy and pathology of the maxillary antrum, Freer discusses the reasons for the usual obstinacy of the disease, the Kuester, Caldwell-Luc and other operations for the relief of this operation. He says that the intranasal operations, both the one in the middle meatus in milder cases, and the radical one of Rethi removing all of the nasal floor of the antrum, in worse ones, are to be preferred in all but a minority of the most obstinate and severe cases to the Caldwell-Luc operation and its radical modifications. The Cooper-Meibom method of drilling into the antrum through the socket of a tooth is usually merely palliative and had better be abandoned for the intranasal operations described by the author.

79. **Tuberculosis of Knee Joint.**—Ridlon reports five cases to show what results can be had from patient, painstaking and prolonged treatment by immobilization without internal medication or iodoform injections or cutting operations. He is convinced that the treatment by iodoform injections is never a help and is usually a hindrance to a perfect functional result; that cutting operations for the removal of tuberculous foci and abscesses, while they may shorten the duration of the disease, give a less good functional result in the end than by leaving them alone; and that excisions should never be performed in growing children because of the resulting arrest of growth, which may amount to six or seven inches in the length of the limb, and that amputation should be done only as a life-saving measure.

Virginia Medical Semi-Monthly, Richmond.

June 23.

85 Relative Value of the Various Methods of Determining the Sanitary Quality of a Water Supply. E. C. Levy, Richmond, Va.
86 Injuries to the Brain and Nervous System from Alcoholic Medication. T. D. Crothers, Hartford, Conn.
87 Forcible Removal of Fetus from Uterus: The History, Indications, and Means. M. J. Payne, Staunton, Va.
88 *Circumcision—Its Importance in the Treatment and Prevention of Certain Reflex Nervous Phenomena. M. H. O'Daniel, Bullards, Ga.
89 Tuberculosis in Children. St. G. T. Grinnan, Richmond, Va.
90 *Clinical Significance of the Aspect of the Tongue. A. A. Davidson, Augusta, Ga.
91 Result in One Case of Sarcoma of Throat Treated by Serum-therapy—After Ten Years. F. T. Chamberlin, Washington, D. C.
92 Principles of Surgery. S. McGuire, Richmond, Va.

88. **Circumcision and Nervous Phenomena.**—The object of O'Daniel's paper is to direct attention to the importance of investigating thoroughly the relationship between phimosis and certain nervous disturbances and to urge the importance of circumcision in the treatment and prevention of these conditions.

91. **Clinical Significance of Aspect of the Tongue.**—From a study of the clinical aspect of the tongue in other disorders, Davidson concludes that it is an aid to diagnosis, but of inconsistent value, and that its greatest value as a symptom is to indicate the progress in the given disease.

Archives of Ophthalmology, New Rochelle, N. Y.
July.

93 Fibrillary Edema of the Retina Following Contusion. P. Fridenberg, New York.
94 Total Congenital Detachment of the Retina in Two Brothers. J. S. Fernandez, Havana, Cuba.
95 Recurrent Paralysis of Ocular Muscles Associated with Pain. A. W. Stirling, Atlanta, Ga.
96 Glaucomatous Cloudiness of the Cornea. P. Silex, Berlin.
97 Papillo Retinitis from Iodoform Poisoning. M. Mohr, Budapest.
98 *Influence of Caffein on the Field of Vision in Quinin Amblyopia. G. Schwabe, Leipsic.
99 *Vernal Catarrh. M. Falta, Szeged, Hungary.
100 Suppuration of Cicatricially Degenerated Corneal Tissue and the Conditions Under which Micro-organisms Pass Through it into the Interior of the Eye. W. Dolganoff and M. Sokoloff.
101 Treatment of Congenital and Infantile Hydrophthalmus. C. Schoenemann, St. Johann-Saarbrücken.
102 Metastatic Carcinoma of Iris and Ciliary Body. G. W. Cutler, New York.

98. **Caffein in Quinin Amblyopia.**—The special interest in the case reported by Schwabe lies in the influence which may be exercised by caffein on the field of vision. The conclusions to be drawn from his observations are, in the first place, that amaurosis with a concentric contraction of the visual field persisting for over a year, hemeralopia, and great narrowing of the retinal arteries can be caused by a dose of quinin hitherto judged to be harmless (1.25 g.) in an apparently healthy person with a relaxed vascular system, whose power of resistance has been reduced by insufficient nourishment, and, in the second place, that in such a person caffein, also in small doses (0.1 g.), can temporarily induce a further contraction of the retinal vessels and of the peripheral field, without either influencing the central vision and color perception, or causing a permanent injury to the peripheral vision in spite of frequent repetition for a year.

99. **Vernal Catarrh.**—Falta directs attention to the possibility of mistaking vernal catarrh for trachoma, and describes the following forms of the disease: 1. The eye shows no change, except a slight ciliary injection. The patient has severe photophobia. It is the initial stage of the disease, but is usually of brief duration. The diagnosis is very difficult. 2. In this form the most typical and also the most common, there is observed degeneration of the tarsal conjunctiva of the upper lid, which presents the appearance of a stone pavement. Conjunctiva of the lower lid is catarrhal, or only hyperemic. This form is often mistaken for trachoma. 3. About the cornea are brownish nodules which sometimes cross the margin and invade the cornea itself. A network of conjunctival vessels is attached to each nodule. There is more or less photophobia, frequently hyperemia of the iris with ciliary injection and occasionally hyperemia of the palpebral conjunctiva. This form may be mistaken for phlyctenular keratitis or keratitis fasciculosa. 4. This form is characterized by flat, broad infiltrations of colloidal consistence in the ocular conjunctiva with dense vascular networks attached. It may be confounded with episcleritis. 5. A mixture of the second and third varieties. 6. A mixture of the second and fourth varieties. Although the diagnosis of vernal catarrh is usually easy, a great help in diagnosticating the condition is the fact that if the diseased eye is rubbed quickly and gently with the upper lid, or if, after eversion of the lid, the proliferations on the tarsal surface of the conjunctiva are rubbed with a little glass rod, the patient will complain of severe itching. This happens with no other disease. In the summer, he sends the patients to a cool mountain resort. For those who can not go to such a place he orders dark glasses and the constant application of cold compresses, which render the disease much more endurable during the warm months. In addition, every second or third day he everts the upper lid and massages the conjunctiva with yellow ointment on a small glass rod, and then massages the nodules and infiltrates by means of the lid itself.

American Journal of Urology, New York.
June.

103 American Urological Association. R. Guiteras, New York.
104 Present-day Status of Tuberculosis of Male Genital Organs. E. R. W. Frank, Berlin.
105 Constitutional Aspects of Gonorrhea. F. R. Sturgis, New York.
106 Cytodiagnostic Examinations of Gonorrheal Secretions. M. Joseph and M. E. Polano, Berlin.
107 New Model of the Catheterizing Cystoscope. W. Ayres, New York.
108 Prostatic Hypertrophy: Its Surgical Treatment: Conclusions Drawn from Twenty-five Operations. F. Cabot, New York.

Journal of Medicine and Science, Portland, Me.
June.

109 Pain as a Symptom in Urinary Diseases. C. G. Cumston, Boston, Mass.

Texas Medical News, Austin.
June.

110 Prevention of Tuberculosis. M. M. Pool, El Campo, Texas.
111 Practical Points on the Use of the Microscope. J. L. Denison, Corsicana, Texas.

Ophthalmic Record, Chicago.
June.

112 Various Methods Employed for Localizing Foreign Bodies in the Eye by Means of the Roentgen Rays. J. E. Weeks, New York.
113 Magnetic Properties of Steel Alloyed with Other Metals. W. M. Sweet, Philadelphia.
114 Shield for the Eye in Skiascopy. J. N. Rhoads, Philadelphia
115 Exophthalmos Caused by Disease of the Ethmoidal Cells and Frontal Sinus; Drainage; Recovery. R. H. Johnston, Baltimore.
116 Two Cases of Melanosarcoma of the Chorold. C. J. Kipp, Newark, N. J.
117 Sachs' Lamp for Transillumination of the Eye. E. S. Thomson, New York.

Northwest Medicine, Seattle, Wash.
June.

118 Primary Repair of Lacerations and Injuries of the Pelvic Floor. H. A. Castle, Pocatello, Idaho.
119 Tick Fever. R. M. Stith, Seattle, Wash.
120 Intestinal Paralysis. W. H. Axtell, Bellingham, Wash.
121 Rheumatism of Childhood. W. C. Hastings, Seattle, Wash.

American Practitioner and News, Louisville, Ky.
June.

122 Emergency Surgery. J. R. Wathen, Louisville.
123 Gynecologic Examination. O. H. Kelsall.
124 Study of Burns. T. K. Van Zandt.
125 Hernia, Its Complications and Treatment. L. G. Bowers, Richmond, Ind.
126 Fissure in Ano. E. O. Witherspoon.

Journal South Carolina Medical Association, Charleston.
June.

127 President's Address, South Carolina Medical Association. R. Wilson, Jr.
128 Fibroma Ovarii, with Twisted Pedicle and Marked Ascites. L. Peters, Columbia, S. C.
129 Intestinal Obstruction. F. L. Potts.
130 Physiologic Saline Solution; Its Uses and Abuses. L. C. Stennis, Greenville, S. C.

Fort Wayne Journal-Magazine.
June.

131 Note on Appendicitis. B. Robinson, Chicago.
132 Medicolegal Aspect of Insanity. W. P. Whery, Ft. Wayne, Ind.
133 Prophylaxis and Hygiene of the Exanthematous Diseases. C. A. Woodruff, Ligonier, Ind.

Brooklyn Medical Journal, New York.
June.

134 Cysts of the Breast. W. C. Wood, Brooklyn.
135 Observations on the Diagnosis of Carcinoma Ventriculi. H. G. Webster, Brooklyn.
136 Causes of Femoral Phlebitis. C. H. Goodrich, Brooklyn.
137 Uric Acid Diathesis in Children. R. T. Wheeler, Brooklyn.
138 Vesical Calculus. T. H. Dexter, Brooklyn.
139 Surgical Treatment of Purulent Salpingitis. H. C. Keenan, Brooklyn.
140 Nasal Occlusion in Its Etiologic Relation to General Diseases. A. C. Howe, Brooklyn.

Archives of Physiological Therapy, Boston.
June.

141 Is the Gulf Stream a Climatic Myth? J. K. Crook, New York.
142 Further Experiments with Electrostatic Machines. S. Sheldon, Boston.
143 High Frequency Oscillatory and Pulsatory Discharges. W. J. Jenks, and C. L. Clarke, Boston.
144 Use of Roentgen Rays in the Diagnosis of Foreign Bodies in the Cranium. K. C. Mead, Middletown, Conn.

Medical Age, Detroit, Mich.
June 10.

145 How Tuberculosis Will Be Eventually Eradicated. J. H. Adams, Paoli, Pa.
146 Parenchymatous Keratitis, Iridochoroidal Form with Loss of Both Eyes. C. H. Brobst, Peoria, Ill.
147 Surgical Treatment of Tubercular Spondylitis. A. E. Halstead, Chicago.

Journal of Experimental Medicine, New York.
June.

148 Questions Relating to the Virulence of Micro-organisms, with Particular Reference to Their Immunizing Power. R. P. Strong, Manila.
149 Method for Preparing a Permanent Nocht's Stain (Nocht-Jenner Stain). T. W. Hastings, New York City.
150 Effects of Intravenous Injections of Bile on Blood Pressure. S. J. Meltzer and Wm. Salant, New York.
151 Hexon Bases of Liver Tissue Under Normal and Certain Pathologic Conditions. A. J. Wakeman, New York.
152 Construction of a Thermostat Room. N. H. Harris, New York.
153 Enzymes and Auto-Enzymes of Inflammatory Exudates. E. L. Opie, New York.

Journal Michigan State Medical Society, Detroit.

July.

154 Instrumental Methods in the Study of Human Physiology and Their Relation to Experimental Medicine. W. P. Lombard, Ann Arbor.
155 Historical Sketch of the Radical Mastoid Operation. R. Connor, Detroit.
156 State Board Work. W. H. Sawyer, Hillsdale.
157 America's Part in the Progress of Surgery. B. R. Schenck, Detroit.
158 Case of Family Ataxia of the Hereditary-Cerebellar Form with Necropsy. I. H. Neff, Pontiac, Mich.

Western Medical Review, Lincoln, Neb.

June.

159 Ideals. M. L. Hildreth, Lyons, Neb.
160 Plea for Surgical Intervention in Suspected Malignant Disease of the Abdominal Cavity. B. B. Davis, Omaha, Neb.
161 Proper Management of Labor by the Country Doctor. A. E. Cook, Randolph, Neb.
162 Choice of Operations for the Restoration of the Pelvic Floor. J. W. Bullard, Pawnee City, Neb.
163 Chronic Metritis. E. Brown, Omaha, Neb.

Medical Fortnightly, St. Louis.

June 26.

164 Myasthenia Gravis. C. K. Mills, Philadelphia.
165 Anatomic Eponyms. R. S. Gregg, Chicago.

Vermont Medical Monthly, Burlington.

May.

166 Extrauterine Pregnancy. P. E. McSweeney, Burlington.
167 What Can Preventive Medicine Do to Safeguard the Middle Ear Against Acute and Chronic Infection? F. P. Emerson, Boston.
168 Amputations. T. H. Manley, Boston.
169 Diseases of Children. D. C. Hawley, Burlington.

Bulletin Johns Hopkins Hospital, Baltimore.

June.

170 Vaginal Cysts. T. S. Cullen, Baltimore.
171 Etiology and Pathogenesis of Pernicious Anemia. C. H. Bunting, Baltimore.
172 Recurring Phlebitis of Obscure Origin. J. B. Briggs, Washington, D. C.
173 Some Observations on Heart Block in Mammals. J. Erlanger, Baltimore.
174 Force of Contraction of the Gall Bladder and the Course of Its Motor and Inhibitory Nerve Fibers. J. A. Freese, Baltimore.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

July 15.

1 *Prospects and Vicissitudes of Appendicitis. C. A. Ballance.
2 Two Cases of Duodenal Ulcer Treated by Gastroenterostomy. F. Eve.
3 *Acute Salpingitis Caused by an Inflamed Appendix Bursting into the Mouth of the Fallopian Tube. J. Bland-Sutton.
4 Case of Cutaneous Anthrax Treated Without Excision with Sclavo's Antianthrax Serum; Recovery. William Mitchell.
5 Spoon Elevator for Raising the Pelvic Floor. J. L. Thomas.
6 Experimental Inquiry into the Infection of Operative Wounds from the Skin, the Breath and the Air. J. R. Collins
7. Keratosis Palmaris et Plantaris in Five Generations. F. H. Jacob and A. Fulton.
8 *Treatment of Serous Effusions by Injection of Adrenalin Chlorid. H. W. Plant and P. Steele.

1. Prospects and Vicissitudes of Appendicitis.—A review of statistics on the subject of appendicitis by Ballance gives the following results: 1. A certain proportion of cases recover without surgical intervention, and of these some remain for a considerable time, if not permanently, free from relapse. The proportion of such cases varies considerably in different series, even when treated by observers whose plan of treatment is identical 2. The mortality of late operations is high, and that when it is found necessary to operate after failure of other treatment the condition found is almost invariably such as would have been better and more easily dealt with by an earlier operation. 3. The rule to operate early in all cases leads to the recovery of a large proportion of the severe cases. 4. The appendix may be safely ablated, even when localized abscess is present. 5. The statistics of those adopting the opportunist rule seems always charged with at least a small number of cases in which it would seem probable that life might have been saved or an undesirable complication avoided by early intervention. 6. A large proportion of the bad cases with diffuse peritonitis are first attacks. He concludes, however, that: 1. Every diagnosable inflamed appendix with signs of increasing local or general peritonitis should be removed. 2. Every appendix which has given rise to inflammation or abscess should be removed. 3. In serious acute cases it is unwise to leave the appendix; as the primary site of infection is more likely to cause the continuance of constitutional symptoms than the spreading peritonitis around. Further, if left it requires another operation for its removal.

3. Acute Salpingitis.—Bland-Sutton refers to a case in which an inflamed appendix perforated, and the inflammatory products were discharged into the right Fallopian tube through its fimbriated extremity.

8. Serous Effusions Treated by Injection of Adrenalin Chlorid Solution.—In all the cases in which Plant and Steele have tried the effect of the injection of adrenalin, the following has been the method adopted: As much as possible of the fluid was withdrawn by a two-way trochar and cannula, and through the cannula, still *in situ*, a dram of adrenalin chlorid (1 in 1,000), diluted to ½ oz. with sterile water, was introduced by means of an exploring syringe. The cannula was then removed, the wound closed with wool and collodion, and, in abnormal cases, the abdomen was gently manipulated for five minutes and a binder firmly applied. The only cases of ascites, with one exception, in which adrenalin was tried were those due to cirrhosis of the liver, and without exception the treatment proved successful. Immediately after the injection in ascitic cases the patients often complained of sharp abdominal pain. In all cases there was a rise of from 0.5 degrees to 2 degrees of temperature, occurring usually within half an hour of the time of injection, also an immediate rise in the pulse tension was noticed lasting from a quarter to half an hour. In no case was the amount of urine altered.

The Lancet, London.

July 15.

9 *Tracheal Injection: Its Simplification and Its Use in Pulmonary Tuberculosis. Dr. Mendel.
10 Hours of Sleep at Public Schools, Based on an Inquiry into the Arrangements Existing in Forty of the Great Public Schools in England and Others in the United States of America. T. D. Acland.
11 *Influence of Fruit on the Precipitation of the Uric Acid of the Urine. W. J. Smith, Jerome.
12 Experiences of the Treatment of the Cancerous Cervix Uteri by the Abdominal Route, with Pelvic Dissection. A. J. Wallace.
13 Five Fatal Cases of Acute Mental Disorder, Probably Acute Delirium. E. Goodall.
14 *Duration of Life After the Appearance of Albuminuric Retinitis. S. Snell.
15 Chemical Mechanism of Gastric Secretion. J. S. Edkins.
16 Strangulated Hernia of the Small Intestine and Bladder. G. F. Barham.
17 Two Cases of Actinomycosis. D. D. Crawford.

9. Tracheal Injection.—Mendel attempts to show that the manipulations required for tracheal injection can be sufficiently simplified to be performed by any physician and without special training, and that the introduction of non-irritating liquids in the air passages never cause any reflex, coughing, or suffocation. One method, the medial, is as follows: If the tongue be protruded and held outside the mouth, the patient not swallowing, the pharynx forms a funnel in which the only inferior outlet is the glottis, the esophagus being closed, so that a small quantity of liquid projected against the posterior wall of the pharynx runs down into the air passages. The second is called the lateral method. In this method the liquid must be projected against the lateral wall of the pharynx with sufficient force to turn round this wall and thus reach the posterior wall, whence it falls into the larynx.

11. Influence of Fruit on Precipitation of Uric Acid.—Jerome concludes that pears, fresh figs, grapes, dates, and oranges may be taken not only with impunity but with distinct advantage by those who suffer from uric acid calculus and gravel. The beneficial effect, which will be in proportion to the amount taken, is due essentially, if not entirely, to the lessened acidity of the urine. Marmalade does not raise the precipitability of the uric acid, though in the quantity likely to be taken it fails to produce the opposite effect, probably because the amount of fruit pulp is insufficient for that purpose.

14. Duration of Life After Appearance of Albuminuric Retinitis.—Of 23 patients traced by Snell three are known to be living. Of these, one a man, aged 36, was first seen in July, 1904; the kidney affection had been previously recognized. Two were women and both had suffered during pregnancy. One, aged 35, seen in March, 1891, recovered vision partially, but became affected again in the next pregnancy, two years later, with resulting blindness. The other woman,

aged 45, seen after the birth of the first child, in January, 1897, made a good recovery. The remaining 20 were ascertained to have died as follows: two at the end of one month, two at 2 months, one after 3 months, two after 4 months, one after 5 months, one after 6 months, two after 9 months, one after 12 months, one after 15 months, one after 22 months, two after 24 months, one after 28 months, two after 32 months, and one after four and a half years. The average duration of life in these cases is 14½ months. Snell concludes that the appearance of changes in the retina is an indication of the systemic havoc wrought by the nephritis, and that it portends a fatal termination, which may occur in a few months, and is rarely delayed longer than two years.

Journal of Tropical Medicine, London.

July 15.

18 *Possible Mode of Communication of Leprosy. T. C. Mugliston, Penang.
19 Successful Application of Preventive Measures Against Beriberi. H. Wright.
20 Cerebrospinal Meningitis at Zungeru and Yola in Northern Nigeria.
21 *Obstinate Case of Obstruction of the Bowel—Treatment—Recovery. G. H. Fink, Benares.

18. **Communication of Leprosy.**—For many years Mugliston noted the almost universal occurrence of itch in lepers, and it occurred to him that the disease might be conveyed by the itch mite. On investigation he found that of 77 lepers, 44 had itch on admission; 11 more remembered having had itch, and 22 could not remember.

21. **Obstruction of Bowel.**—Fink cites a case of obstruction of the bowel due to impaction of scybalous masses which was relieved by the injection of 4 drams of glycerin, all other attempts to relieve the condition having failed.

Dublin Journal of Medical Science.

June.

22 *Clinical Report of the Rotunda Hospital. F. H. Tweedy, G. Fitzgibbon and A. Holmes.
23 Large White Kidney. G. Peacocke.
24 Two Cases of Endometritis, with Remarks on Treatment. R. D. Purefoy.
25 Treatment of Diphtheria. C. H. W. McCullagh.

22. **Clinical Report of Rotunda Hospital.**—Tweedy reports 1887 cases of labor in the hospital, with a mortality of 8.42 per cent. Thirteen women died throughout the year. Premature labor was induced five times. There were 13 cases of accidental hemorrhage, one ending fatally. Nine of these patients required no treatment; in the others, labor had not commenced, and in these, moist aseptic pellets of cotton wool were packed tightly round the cervix and promptly checked the hemorrhage. There were 4 cases of placenta prævia, with one death due to septic infection, which existed when the patient entered the hospital. Bi-polar version was performed in the remaining cases, and in one a living child was born. Twenty-nine cases of postpartum hemorrhage were treated successfully by massage, ergot, hot vaginal douches and plugging the uterus with sterile gauze. Manual removal of the placenta was performed 36 times. In 6 cases postpartum hemorrhage was the indication, while in 31, adherent placenta was present, and in 5, retention was due to spasms of the uterus. Eight patients developed eclampsia—five primipara, two II-para and one III-para. In two the convulsions occurred postpartum, and in two others they occurred both before and after delivery. Macerated children were born in four of the cases. Prolapse of the funis occurred in seven cases, as did also hydramnios. Hyperemesis gravidarum occurred once, a severe case, which was relieved by feeding the patient for three days per rectum and by administering numerous saline enemata. Mania of mild type developed in two cases, both primipara. Symphysiotomy was done once for short internal conjugate. Cesarean section was performed once, both mother and child surviving. Craniotomy was necessitated in the case of a dead child with prolapsed non-pulsating cord. There were 61 cases of abortion and immature delivery. In 31 of these the uterus was emptied of its contents by natural methods. In 6 bi-manual expression sufficed to remove the ovum, while in 12, fingers inserted into the uterus caused complete separation of retained contents, and these were subsequently expressed bi-manually or removed by ovum forceps. In 8 cases, the cervix being narrow, a flushing curette was employed to empty the cavity. In one, replacing a retroflexed uterus and flushing out its cavity caused the ovum to escape. In the remaining two cases the cervix was dilated by Bossi's dilator to extract immature fetuses. Three cases of hydatidiform mole occurred, one of them subsequently developing a chorioepithelioma. Of three cases of hematoma of the vulva, only one necessitated opening the tumor and turning out the clots. There were ten cases of podalic version, 392 cases of lacerated perineum, and 65 forceps cases. Among the infantile conditions were the following: Hydrocephalus, 5 cases; spina bifida, 6 cases; meningocele, 2 cases; imperforate anus, 4 cases; cleft palate, 2 cases; icterus, 9 cases; and anencephalia, 3 cases.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 225.

26 (XXIX, No. 25.) Mechanism of Birth. New Pelvimeter.—Zur Mechanik der Geburt. Einzelne Komponenten des Beckenbaues. Die Abhängigkeit der Conjugata vera vom unteren Symphysenwinkel. S. v. Gaszynski (Warsaw).
27 *Rapid Microscopic Diagnosis.—Zur mikr. Schnelldiagnose. Wederhake (Elberfeld).
28 (No. 26.) Noch einmal zur Entstehung des Chorioepithelioms und Epithelioma chorioektodermale aus congenitaler Anlage (congenital origin). L. Pick.
29 *Zur Desinfektion der Bauchdecken (of abdominal walls). R. Saniter.
30 Zur Ausschabung des Uterus (improved curette). K. E. Laubennurg (Remscheid).
31 (No. 27.) Report of XI German Congress of Gynecology, Kell, June 13-17. See page 251.
32 *Zur Publotomie. O. Bürger (Schauta's clinic, Vienna). Id. O. v. Küttner (St. Petersburg).

27. **Rapid Microscopic Diagnosis.**—Wederhake describes a technic which stains fresh specimens so rapidly that the diagnosis can be made in five minutes from the time the specimen is obtained. It can be used to stain the sediment of urine and other fluids. The technic is extremely simple and practicable, differentiating distinctly almost all kinds of cells, including plasma cells, giant cells, muscle cells, certain cocci and even fat on a larger exposure. If the results are not satisfactory, or to control them, the stain can be washed away with diluted ammonia and any other stain then used. The fresh frozen section is taken up, without rinsing, in tincture of iodin (2 to 5 drops in 20 c.c. of water). The section is then transferred, without rinsing, to a 20 per cent. dilution of a stain made by dissolving crocein scarlet 7 B in 10 c.c. of 700 per cent. alcohol until the alcohol will not dissolve any more. It does not take up much. After from one-half to three or five minutes in the stain, the specimen, still held on the spatula, is rinsed and soaked in water for a minute or two—five minutes would probably dissolve out all the stain. The specimen is then allowed to slide off the spatula into a drop of glycerin on the object glass, when it is ready for the microscope after being covered with a cover glass. If the specimen is already fixed, it has to be soaked for two hours in 40 per cent. formalin, and then rinsed in water for two hours, after which the technic is the same as for fresh specimens.

29. **Disinfection of Abdominal Walls.**—Saniter urges the adoption in Germany of the French method of inverting the umbilicus to disinfect it properly before a laparotomy. The center is seized with small forceps and drawn outward, which smooths out the folds and allows the dirt of decades to be readily washed away.

32. **Extramedian Symphyseotomy.**—Two cases treated by Gigli's lateral section of the pubis are related by Bürger and two more by Küttner, the latter the first in Russia. The subcutaneous technic, without drainage, is proving most satisfactory. The operation is so simple and the results so universally good, that both writers believe that pubiotomy is destined to supplant Cesarean section and to abolish perforation of a living child, and also to take the place of prophylactic version in some cases. The bone should be sawed on the smallest side of the pelvis or nearest the fetal occiput.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed page 142.

33 (LX, No. 2.) *Fall von chronischem perforierenden Magengeschwür im Kindesalter (gastric ulcer in child). Bechtold.
34 Thymus-Drüse und plötzliche Todesfälle im Kindesalter (sudden death of children). Zander und Keil.
36 *26 Weeks' Fetus Born and Lived.—Ueber eine selten kleine am Leben gebliebene Frühgeburt. Ein Beitrag zur Frage nach dem Eintritt der Lebensfähigkeit. Oberwarth.
37 Ueber congen. Agenesie einer Lunge. Id.
38 Bericht über 1,150 Fälle von Nervenkrankheiten im Kindesalter (nervous affections in children). Schiffer.

39 Zur Serum-Behandlung. Schoen-Ladnievsky.
40 (No. 3.) *Klinische Beobachtungen über die Muskulatur der Rhachitischen. Hagenbach.
41 Ueber die Ziegenmilch und ihre Verwendung bei kranken Säuglingen (goat's milk for sick infants). Brüning.
42 *Zum Wesen des "Drüsenfiebers" unter Berücksichtigung des Lymphsystems und der Bakteriologie (gland fever). Trautmann.
43 Bemerkungen zur Ziehkinderfürsorge (frequent weighing, etc., in care of foundlings). Effler.
44 Zur Frage des extrabukkalen Scharlachs (12 cases of "wound scarlet fever"). Rossiwahl.
45 Zur Diagnose der Persistenz des Ductus arteriosus Botalli. Dressler.

33. **Gastric Ulcer in Child.**—Bechtold's patient was a girl of 5. The gastric ulcer terminated in fatal perforation in about five months.

36. **Twenty-six Weeks' Infant.**—The infant born after twenty-six weeks of gestation weighed about 750 gm. (about 24½ ounces) when one month old and when nearly three months old it weighed 1,120 gm. (about 40½ ounces). It succumbed then to a purulent ear affection. It was fed by the bottle very effectively, and during the first seven hours after birth had been exposed to severe chilling.

40. **Muscular System in Rachitis.**—Hagenbach-Burckhardt regards the relaxation and atrophy of the muscles in rachitis as the primary cause instead of the results of the abnormal movability of the joints. When the muscles are strengthened, the flail joints recover normal functioning.

42. **"Gland Fever."**—Trautmann does not regard this disease as a separate morbid entity as some have affirmed.

Wiener Klinische Wochenschrift.

Last indexed page 362.

46 (XVII, No. 17.) Beiträge zu den primären Fibro-Myomen der breiten Mutterbänder (of broad ligaments). O. Burkard.
47 Aggressin-Immunität gegen Typhus-Bazillen und Cholera-Vibrionen. O. Bail.
48 Ueber die Aggressin-Immunität gegen den Shiga-Kruseschen Dysenterie-Bazillus. Y. Kikuchi.
49 Zur Frage des Aggressins. C. von Pirquet and B. Schick.
50 (No. 18.) Dural Infusion of Tetanus Antitoxin.—Zur Behandlung des Wundstarrkrampfes mit "Duralinfusion." F. Neugebauer.
51 Hemolytic Action of Tetanus Toxin.—Die hämolytische Wirkung des Tetanus-Giftes. L. Detre and J. Sellei.
52 Ueber das Stillen und die Ursachen des Nichtstillens (breast nursing). G. Nigris.
53 Can Iron Be Administered by Inunction?—Ist Eisen auf dem Wege der Inunktionskur dem menschlichen Organismus einverleibbar? H. Goldman.
53½ Ueber die nekrotisierende Wirkung normaler Seren (necrosis-producing action of normal sera). H. Pfeiffer.
54 (Nos. 19-20.) *Rhythmische pulsatorische Kopfbewegungen (das sogenannte Musset Sche Zeichen) bei Morbus Basedowii (rhythmic movements of head). J. Zeitner.
55 *Beitrag zur Aetiologie der Herzmuskelschwäche (Myasthenia cordis). H. Favarger.
56 *Pseudo Appendizitis und Ileocökal Schmerz. G. Singer.
57 Schillers Beziehungen zur Medizin (relations to medicine). M. Neuburger.
58 (No. 20.) *Ueber Radikal-Operationen bei tuberkulöser Koxitis. Mosetig-Moorhof.
59 Zur Narkose-Frage. F. Schopf.
60 Ueber akute primäre Kolitis. D. Kokoris.
61 (No. 21.) Erfahrungen über lumbale Analgesie mit Tropakokain. Phillip.
62 Zur Kasuistik und Therapie der Elephantiasis. H. Kuhn.
63 Ueber das "Aggressin des Tuberkel-Bazillus." O. Bail.
64 (No. 22.) Radiumwirkung von Heilquellen (radioactivity of mineral springs). A. J. Kalmann.
65 Ueber den Fussschlenreflex und das Babinski Phänomen bei 1,000 Kindern der ersten Lebensjahre (plantar reflex and Babinski sign in 1,000 infants). G. Engstler.
66 To Promote Breast Nursing.—Wie können wir das Stillen der Mütter fordern. F. Hamburger.
67 Topische Diagnostik der Mittelhirnerkrankungen (affections of mid-brain). O. Marburg.

54. **Rhythmic Movements of Head in Exophthalmic Goiter.**—The rhythmic movements of the head, known as Musset's sign, which have been observed in cases of aneurism, aortic insufficiency and arteriosclerosis, were noticed by Zeither in 4 cases of exophthalmic goiter.

55. **Myasthenia Cordis.**—In the hearts in 300 cadavers Favarger found fatty degeneration in 52 per cent., cloudy swelling in 41 per cent, and atrophy and heart weakness in 7 per cent. The heart was thus found affected in 300 out of 670 cadavers examined, exclusive of the cases of pronounced valvular defects. This remarkably large proportion of anatomic affections of the myocardium was a surprise to him. Comparing the anatomic findings with the clinical diagnosis, he found that the fatty degeneration had been diagnosed in only 14 per cent., the parenchymatous degeneration in only 7 per cent. and in all the other cases no traces of the heart affection had been detected during life or they had been interpreted erroneously. The diagnoses had been made by trained Viennese clinicians, and the conclusion is inevitable that in a large proportion of cases it is impossible to differentiate it. It is wiser to give up the attempt and to diagnose merely from the most prominent symptoms, the weakness of the heart muscle, myasthenia cordis. The cause of the myasthenia is either of an infectious or of a toxic nature, or due to anemia or to sclerosis. The clinical diagnosis of weakness of the heart muscle on the basis of the morbid process causing it, is sure to be correct, and it also directs attention to the necessity for strengthening the enfeebled heart musculature by rest and tonics.

56. **Pseudo-Appendicitis and Ileocecal Pain.**—Singer has had an extensive experience of cases of illness which simulated appendicitis but were in reality of other origin, and the appendix was found sound. In a certain number of cases, the operation for the supposed appendicitis banished all the symptoms although nothing was found in the appendix to explain them. In some instances it may be possible that slight malformation or displacement of the appendix or adjacent parts might entail disturbance in circulation, causing pain, but spontaneously righting themselves later or corrected by an operation. In other cases, fractional disturbances in the lower intestine simulated the picture of chronic appendicitis, but the spontaneous cure under change of air or hydrotherapy or other general measures cleared up the diagnosis. In other cases neuroses in the sexual sphere induced obstinate spastic contraction in the lower bowel with its train of symptoms, especially pain. When the latter is located in the ileocecal region the widespread dread of appendicitis at once locates the trouble at this point. In one of the cases he describes, McBurney's point was painful; the patient was a woman of 30, the rectum free. Examination revealed severe vaginismus, which was ascribed to masturbation. A course of cold hydrotherapy banished all the symptoms and there has been no sign of appendicitis since. Appendicitis may also be simulated by a kindly affection, as he has had occasion to observe in his practice several times. Intestinal parasites can also cause symptoms suggesting it.

58. **Radical Operation for Tuberculous Hip-Joint Disease.**—In the radical operation for a severe case of tuberculous coxitis Mosetig opens the field extensively by temporary resection of the greater trochanter, not disturbing the attachment of the transverse oblique abdominal muscles. After extirpation of the focus, he fills the resulting cavity with his iodoform filling, in which he implants the end of the femur. The legs are placed parallel and the abscess cavity is drained. The pseudoarthrosis which results is much better, he thinks, than ankylosis. His 4 patients thus treated are able to walk without trouble, merely requiring an insole 2.5 cm. thick. They can sit and stand without difficulty. In one case, a previous shortening of the limb of 3 cm. was half corrected by the operation. This method is applicable for the severer cases while that recommended by Lorenz, described recently in these columns, he thinks should be reserved for the milder cases. The Roentgen pictures show the extremely satisfactory anatomic result obtained.

Münchener medizinische Wochenschrift.

68 (LII, No. 22.) Beginn und Wachstum der Darmkrebse (growth of intestinal cancer). Marckwald.
69 *Behandlung der Leukämie mit Röntgen-Strahlen. O. Rosenbach.
70 Origin of Quinquaud's Sign.—Die Entstehung des Quinquaudschen Phänomens. M. Herz.
71 *Local Massage for Hay Fever.—Zur Behandlung der Heufieber-Konjunktivitis. O. Schwarz.
72 Zur Kasuistik des "hyperkeratotischen" gonorrhoischen Exanthemes. V. Roth.
73 Fall von Erblindung nach Atoxyl-Injektionen bei Lichen ruber planus (drug blindness). W. Bornemann.
74 Ein neuer Sperrhaken (clamp). Fuoss.
75 Apparat zur Gefrierpunktsbestimmung (for determination of freezing point). P. Roethlisberger.
76 *Lymphogene retrograde Tuberkulose einiger Bauchorgane (of certain abdominal viscera). Tendeloo. (Commenced in No. 21.)
77 (No. 23.) Kroenleins Orbital-Resektion zur Behandlung retrobulbarer Geschwülste und Entzündungen. Axenfeld.
78 Preservation of Milk with Hydrogen Dioxid.—Konservierung der Milch durch Wasserstoffsuperoxyd. E. Baumann.
79 Catalytic Influencing of Oxidation of Sugar.—Die katalytische Beeinflussung der Zuckerverbrennung. H. Schade.
80 After-Results, Especially Cramps, After Administration of Theophyllin (theocin).—Zur Frage der Folgeerscheinungen, namentlich der Krampfzustände nach Theophyllingebrauch. Hermann.

81 Hepatikus-Drainage bei Situs transversus. Resektion des Ductus choledochus wegen Narben-Striktur. H. Kehr.
82 Serum Behandlung des Milzbrandes (anthrax). Wilms.
83 2 Cases of Gland Fever.—Drüsenfieber. G. Trautmann.
84 Apparatus for Manifold Extension.—Apparate zur Herstellung jeder Art von Extension. F. Kuhn.
85 Children's Asylums in the Country.—Ueber Landerziehungsheime. G. Klein.
86 Wage-earning for Children.—Kinderarbeit.

69. **Roentgen Treatment of Leukemia.**—Rosenbach regards the sudden suppression of an essential symptom—such as occurs in leukemia when the white cells are reduced in numbers by Roentgen treatment—as a questionable advantage for the organism. The sudden and excessive demands made on it are a serious matter, the same as the rapid rise of the temperature after transient reduction by purely symptomatic treatment of the hyperthemia. He thinks that in leukemia a certain number of the white blood cells—and probably also of the red—are destroyed by Roentgen treatment. Others are attracted to the skin by the local irritation of the rays. These processes alter the composition of the blood to a certain extent, and as the blood is the organ which supplies stimuli for the functional activity of the tissues, the production of leucocytes is inhibited to a certain extent. It is an open question whether the radiation is itself the inhibiting factor or the direct or local action of the rays on the blood, or whether the products of the destruction of the blood cells may not be the determining factor. The inhibiting influence exerted by the rays is probably only a temporary compensation of the actual morbid cause, just as the benefit of purely symptomatic measures to reduce fever is experienced only so long as these measures are kept up. He warns against accepting these temporary effects as removal of the cause. The history of Roentgen treatment of leukemia is passing through the same phases as that of tuberculin treatment of tuberculosis. Instead of the maximal stimulus, the aim now is to use the smallest possible amount, and to treat patients with the smallest possible amount of stimulation.

71. **Local Massage for Hay Fever.**—Urbantschitsch gives an illustrated description of a little electric apparatus with which he massages the mucosa of nose and throat.

76. **Lymphogenic Retrograde Tuberculosis of Certain Abdominal Organs.**—Tendeloo relates a number of cases of tuberculosis of kidneys, suprarenals, sexual organs, liver, spleen and peritoneum in which the location and distribution of the foci conflicted with the assumption of a hematogenic origin. On the other hand, everything harmonized with the assumption of a retrograde lymphogenic origin. The absence of any other tuberculosis foci in the intra-abdominal organs and tissues, while such existed in the lungs or pleura, was another argument in favor of this assumption, as also the finding of dust pigment in the abdominal foci, suggesting that the tubercle bacilli had migrated from some intrathoracic focus by way of the lymphatics. The liver is connected directly with the thorax by the lymphatics, that is, there are no interposed glands, he has found, and he thinks it probable that a similar direct connection exists between the suprarenals or kidneys and the thoracic cavity.

Gazetta degli Ospedali, Milan.

87 (XXVI, No. 46.) Valore della citodiagnosi. A. Rossi.
88 Cura dell' appendicite. G. Santoro.
89 •Immunizzazione per morfina. G. Argentina.
90 (No. 47.) •Eclampsia gravidica e paratiroidina. G. Vassale.
91 (No. 49.) •Sul significato clinico della formula bacillare tubercolare in genere, della streptococciforme in specie. S. Mircoli.
92 Caso di Pseudoleucemia curato col raggi Roentgen. C. Gennari.
93 (No. 52.) •Sulla interpretazione delle iperglobulie del Tubercolosi e dell' eccitamento da tubercolina. S. Mircoli.
94 Le alterazioni secondarie del polmone nelle pleuriti essudative croniche (changes in lungs). E. Chilesotti.
95 Tumori del mediastino. E. Clerici.
96 •Importanza degli ascaridi nella chirurgia addominale. N. Soma.
97 (No. 55.) Sull' independenza funzionale ed anatomica dei lobi del fegato (of liver lobes). T. Silvestri.
98 •Di talune cirrosi epatiche e del loro trattamento. B. Schiassi.
99 •Esiste un serio pericolo nella conservazione di parte della of cervix)? A. Gasparini.
100 (No. 58.) •La pallestesia (sensibility to tuning-fork applied to skin). E. Maragliano.
101 •Nuovo metodo per differenziare il bacillo di Eberth dai bacilli eberthiformi e dai coli. P. Trapani.
102 La corrente alternativa sinusoidale e la corrente pulsante nella cura della malattia di Basedow (electric treatment). G. Severino.
103 •Intravenous Injections of Sublimate in 4 Cases of Scarlet Fever.—Iniezioni endovenose e sottocutanee di sublimato in 4 casi di scarlattina grave. L. M. d'Andrea.
104 Sopra 3 casi di anemia perniciosa progressiva ed 1 di anemia sintomatica grave. U. Zoppelli.
105 Eclampsia puerperale. O. Betti.

89. **Experimental Immunization to Morphin.**—Argentina experimented on rabbits, finding that very slow, gradual administration of morphin induced more active immunization than when large doses were given in a comparatively short time. The aqueous extract of the brains of animals, in suitable doses, thus treated was able to neutralize the minimal fatal dose of morphin, but less actively than the serum of the animals. Large doses of the brain emulsion proved toxic.

90. **Parathyroid Treatment of Eclampsia and Epilepsy.**—Vassale's previous communications have been summarized in these columns. He relates here that no change was noted in one case of epilepsy under treatment with extract of the parathyroid glands from beef cattle, but in two other epileptics the improvement was most striking. One was a young woman who had had epilepsy from childhood and severe psychic disturbances. No other treatment had been applied for several years. He has noticed that dogs show marked changes in character after extirpation of their parathyroid glands, with hallucinations, depression with constant whining, resembling human melancholia, and states of excitement amounting to actual mania. Such symptoms as these are not observed in any other experimental intoxication. Removal of the thyroid gland does not induce these acute psychic disturbances, but merely a slow and progressive mental torpor as symptoms of myxedema develop. He suggests that parathyroid treatment should be given a trial in mental affections. The benefit that has been noted under thyroid treatment in certain cases of mental affections may possibly have been due to scraps of the parathyroid inadvertently used along with the thyroid, and the cases of failure to the absence of such fragments. He is convinced that the parathyroid theory of the origin of eclampsia harmonizes with the clinical facts observed. Latent functional insufficiency of the parathyroid gland with pregnancy or the puerperium superposed, causes the outbreak of eclampsia; the other causes that have been assumed to be the source of the trouble are merely co-operating factors. The latter may act by the cumulative action of their influences and those of the pregnancy of puerperium and together induce functional insufficiency of the parathyroids or cause definite injury to them. The trouble may likewise be due to congenital defects in one or more of the parathyroids. The last assumption would explain the occurrence of eclampsia in sisters and in cases of myxedema. Special attention should be paid to the parathyroid glands in postmortem examination of women who have succumbed to eclampsia.

91. **The Bacillary Formula in Tuberculosis.**—Mircoli emphasises anew that when bacilli lengthen out it is a sign of diminished virulence. He reviews recent works on the bacillary formula, all confirming his previous assertions on the subject. The streptococcal form of the tubercle bacilli in the sputa, especially if comparatively long, indicates a mild course of the disease, as it is a sign that the organism is opposing a vigorous resistance. Sclerosis will develop or is already developed. The short, thick forms of the bacillus have an opposite significance. Even a large number of the streptococcal shapes in the field is less unfavorable than the finding of even a few of the short, pulpy shapes. When these shapes alternate, the prognosis depends on which seems to be getting the upper hand.

93. **Excess of Blood Corpuscles in Tuberculosis.**—Mircoli thinks that far too little attention has been paid to the hyperglobulia of the tuberculous. It may be the explanation for the so-called "florid" cases of tuberculosis, and also the benefit of small repeated withdrawals of blood in incipient tuberculosis which Sydenham reported. A "florid" aspect with hyperglobulia should not be regarded as against the assumption of tuberculosis in dubious cases. He further calls attention to the fact that injections of tuberculin, previous to an operation, have the power to increase the leucocytosis, and thus enhance the resisting forces of the peritoneum. Isaeff reported several years ago that tuberculin is able to reinforce

the resisting powers of the peritoneum against infection. This is not surprising when we reflect that the active principle of tuberculin is its nucleinic or thymic acid, and that the latter is composed in large part of phosphorus. This explains why tuberculin itself, in certain individuals and circumstances, can exert a stimulating action in the general biologic constitution and on the blood-forming organs in particular. The nucleinic acid present in the tubercle bacillus is a hundred times more toxic than that of its congener, the thymic acid in the thymus. But the fundamental law holds good, and tuberculin, like nucleinic acid, like dead tubercle bacilli, like the semen, the thymus or spleen and like phosphorus, has a true stimulating action on the organism in a given dosage, under certain conditions, and hence on its general immunity and on the formation of blood. A suggestive fact was related not long ago by Arloing. He found that after animals had been inoculated in the spleen with tuberculosis, if splenectomy was performed not long thereafter, the animals died much more rapidly than the other animals with their spleens left in place, although studded thick with tuberculous lesions. The abundance of nucleinic acid in the spleen possibly conferred greater resisting powers on the organism. A tuberculous spleen is frequently associated with enormous excess of blood corpuscles, and this may possibly explain the "florid" cases of unmistakable tuberculosis occasionally observed.

96. **Importance of Helminths in Abdominal Surgery.**—Soma reports a case in which the healing of an abdominal wound was delayed by an ascaris which had worked its way into the wound. D'Alessandro has witnessed four similar cases, in one of which the emergence of the helminth through the wound infected it, with a fatal result. He advises that when the surgeon can palpate helminths through the walls of the intestines he had better remove them when operating for abdominal traumatism, even if it be necessary to make a small incision in the intestine for the purpose. Soma thinks that this would be comparatively useless, and suggests the injection of some worm-killing fluid into the intestine through the open wound. This would render torpid the helminths in the vicinity and further measures for their evacuation could be applied later.

98. **Certain Forms of Cirrhosis of the Liver and their Treatment.**—Schiassi does not accept the classification of liver cirrhosis advocated by Chauffard and others. He recognizes five varieties, based on the anatomic findings, the venous, the arteriovenous, the biliary, the capsular and the mixed. The ascites may be due exclusively to obstruction in the portal circulation or exclusively to the peritonitis, or to both combined. When due exclusively to the portal obstruction, an early operation has every prospect of success. Numerous clinical and experimental data have established the fact that the portal circulation can be effectively restored by anastomosis even when obstruction is complete. When a patient with cirrhosis of the liver and ascites suffers from vague pains in the abdomen, with rise of temperature, right pleural effusion and sensitive liver, and when the ascitic fluid contains a large proportion of albuminoids and has the characters of an exudate, then the indications for surgical intervention should be formulated with extreme care. Tuberculous peritonitis accompanying cirrhosis of the liver may be cured by a laparotomy as also peritonitis from other causes. Parona has reported a case in which he opened the abdomen intending to suture the omentum in a Talma operation. The omentum was missing, and he therefore merely sutured the abdomen after evacuating the fluid. The patient recovered. Similar cases have been reported by others since, and the conclusion seems inevitable that the effusion in these cases is merely the expression of a readily curable inflammation. He adds that the inflammation is curable only when it is a comparatively mild, chronic inflammation. If the inflammation is not in this chronic phase, the operation might easily aggravate it. He is convinced that some of the deaths that have been known to occur soon after laparotomy for peritonitis were due to aggravation of the existing peritonitis. The surgeon should be guided by the rule that laparotomy is indicated at once on the diagnosis of ascites due exclusively to portal obstruction. The omentum should be transplanted and other measures taken according to individual indications. On the other hand, if the ascites be due, either wholly or in part, to inflammation of the peritoneal serosa it is unwise to attempt any surgical interference until the inflammation has passed into the chronic stage. If necessary, the patient can be tapped. The laparotomy should be postponed until four months at least after the appearance of the ascites. During the interval medical measures should be used, milk diet, calomel, possibly iodin subcutaneously, and liver extract or fresh livers might be given to advantage. He has only good results from this organotherapy.

99. **Is there Danger in Leaving Part of the Cervix.**—Gasparini tabulates the details of 51 cases since 1898, in which incomplete hysterectomy was done for various reasons. There were 3 deaths. The mortality after complete hysterectomy is higher than this, as he shows by comparative tables. He adds that no case of carcinomatous or sarcomatous degeneration of the stump occurred in his series.

101. **Differentiation of Typhoid Bacillus.**—Trapani asserted that the typhoid bacillus behaves differently from the pseudo-typhoid and the colon bacillus in the presence of glycerin. He transfers a platinum loop of the culture to 1 c.c. of distilled water, and keeps the test tube in the thermostat for an hour at 30 C. Ten loops of the contents are then transferred to another test tube containing .5 c.c. of neutral, sterile glycerin. A fresh loop is taken each time to prevent mixture of the fluid with glycerin. The glycerin tubes are left undisturbed in the dark at room temperature for forty-eight hours. Agar plates are then inoculated with the glycerin bacilli. The pseudo-typhoid and colon bacilli proliferate undisturbed while the typhoid bacilli are unable to proliferate after their sojourn in the glycerin.

103. **Intravenous Injections of Corrosive Sublimate in Scarlet Fever.**—D'Andrea relates that there were no deaths in 52 cases of scarlet fever during a recent epidemic, but that the disease then assumed a more malignant form and 6 died out of the next series of 12. Alarmed by this mortality, he treated the next 4 patients by intravenous or subcutaneous injection of from 2 to 4 mg. of bichlorid of mercury. All were very severe cases, but recovery ensued in all. The improvement was so marked under this treatment that he has since treated 9 cases of severe typhoid and one of puerperal infection in the same way. He calls attention to the pronounced antithermic action of the bichlorid of mercury when used intravenously or subcutaneously. The temperature drops in from two to six hours.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SCIENTIFIC REPORTS ON THE INVESTIGATIONS OF THE IMPERIAL CANCER RESEARCH FUND. Under the direction of Royal College of Physicians of London and Royal College of Surgeons of England. E. F. Bashford, M.D. Part I. The Statistical Investigation of Cancer. Part II. The Growth of Cancer Under Natural and Experimental Conditions. Paper. Pp. 58 and 96. Price 2s. 6d. each part. London: Taylor & France, 1905.

FIRST AID IN ILLNESS AND INJURY. Comprised in a Series of Chapters on the Human Machine, Its Structure, Its Implements of Repair and the Accidents and Emergencies to which It is Liable. J. E. Pilcher, M.D., L.H.D., Ninth Edition; 208 Illustrations. Leather. Pp. 356. Price, $2.00. New York: Charles Scribner's Sons. 1905.

EVOLUTION OF MAN. A Popular Scientific Study. E. Haeckel. Vol. I. Human Embryology or Ontogeny. Vol. II. Human Stem History of Phylogeny. Translated from the Fifth (enlarged) edition by Joseph McCabe. Cloth. Total pages 905. Price $10.00. New York: G. P. Putnam's Sons, 1905.

TEXT-BOOK OF PHYSIOLOGY, Normal and Pathological, for Students and Practitioners of Medicine. W. S. Hall, Ph.D. Second edition. Revised and enlarged; 340 engravings and Three Colored Plates. Cloth. Pp. 795. Price, $4.00 net. Philadelphia: Lea Brothers & Co. 1905.

COLOR-VISION AND COLOR-BLINDNESS. A Practical Manual for Railroad Surgeons. J. E. Jennings, M.D., 27 Illustrations and one colored plate. Cloth. Pp. 132. Price, $1.00 net. Philadelphia: F. A. Davis & Co., 1905.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF BOSTON, reported by A. P. Clarke, A.M., M.D. Cloth. Pp. 178. Boston: David Clapp & Son, 1905.

FIRST AID FOR PERSONS OVERCOME BY GAS. Cloth. Pp. 15; 15 Illustrations. Philadelphia: United Gas Improvement Co.